



**Coal Mining and Reclamation Permit  
Incidental Boundary Revision (IBR)**

**Issued To:** AMERICAN ENERGY CORP  
43521 Mayhugh Hill Rd.  
Twp Hwry 88  
Beallsville, OH 43716

**Telephone:** (740) 926-9152

**Permit Number:** D-425  
**Application Number:** IBR-425-19  
**Acreage:** 4.00  
**Effective:** 05/27/2010  
**Expires:** 10/21/2014

**Type of Operation:** Underground (Longwall)

**Reason:** Airshaft

**LOCATION OF PERMIT AREA**

NAME OF LANDOWNERS	T	R	SECTION	LOTS	TOWNSHIP	COUNTY
Nelson G. Lindsey	5	4	26		WASHINGTON	BELMONT

The issuance of this IBR means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This IBR is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this IBR is:

**Quality:** N/A

**Quantity:** N/A

**Note:** Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this IBR unless noted otherwise.

**Signature:**

Chief, Mineral Resources Management

**Date:** 05/27/2010

**Ohio Department of Natural Resources  
Division of Mineral Resources Management  
2045 Morse Rd., Bldg. H-2  
Columbus, OH 43229-6693**

AMERICAN ENERGY CORP  
43521 Mayhugh Hill Rd.  
Twp Hwy 88  
Beallsville, OH 43716

InvoiceNo: **10234**  
Invoice Date: 05/24/2010  
Print Date: 05/24/2010  
Permit Type: **C**  
Permit Law: **D** No: **425**  
Orig. App. No.: 277

Re: Request for Bonds and Fees

Dear Sir/Madam:

The following action has been approved or completed as of: 05/19/2010

**Application: IBR-19**

Bond and fees in the amounts shown below are due before the application can be issued. Bond may be in the form of Surety Bond, Cash Bond, Certificate of Deposit or Letter of Credit.

The fees and bond should be paid to the Division of Mineral Resources Management within thirty(30) days from the date shown above and should reference the given invoice number to insure proper credit. All checks should be payable to the State of Ohio and sent to my attention at the above address.

**SURETY BOND as PERFORMANCE SECURITY**

A surety bond requires an attached Power of Attorney as well as a Certificate of Authority from the State of Ohio, Department of Insurance.

Bond Amount			Fee Amount	
4.00 x	\$2,500.00 =	\$10,000.00		
10000	Amount Paid:	\$0.00	Amount Paid:	\$0.00
<b>Bond Due:</b>	<b>\$10,000.00</b>		<b>Fees Due:</b>	<b>\$0.00</b>

If you have any questions concerning this billing, please contact me at (614) 265-1050

Sincerely,



Tom Frison  
Division of Mineral Resources Management

cc: File  
CAMBRIDGE

**THIS INVOICE MUST BE RETURNED WITH YOUR PAYMENT**

AEC 07414



## Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN LOGAN, DIRECTOR

### Division of Mineral Resources Management

John F. Husted, Chief

2050 E. Wheeling Avenue

Cambridge, OH 43725-2159

Phone: (740)439-9079 Fax: (740)432-7711

**Date:** 05/27/2010

**To:** Appropriate Governmental Agencies

**From:** John Husted, Chief  
Division of Mineral Resources Management

**Re:** Coal Mine Application Number: IBR-425-19  
Coal Mine Permit Number: D-425  
Mine Name: Century  
Date Issued: 05/27/2010

**Applicant:** AMERICAN ENERGY CORP  
43521 Mayhugh Hill Rd.  
Twp Hwy 88  
Beallsville, OH 43716

**Telephone:** (740) 926-9152

**Permit Location:**

COUNTY	TOWNSHIP	SECTION	LOTS	T	R	Quad
BELMONT	WASHINGTON	26		5	4	ARMSTRONG MILLS

**Surface Acres:** 4

**Underground Acres:**

The Division of Mineral Resources Management has issued a coal mining and reclamation permit Incidental Boundary Revision (IBR) to the above named applicant. The permit number and date of issuance is shown above.

The approved water monitoring plan for this permit's IBR is:

**Distribution List:**

Division of Wildlife  
Attn: John Navarro, Environmental Section Supervisor  
2045 Morse Road, Bldg. G-3  
Columbus, OH 43229-6693

Office of Surface Mining  
4605 Morse Road  
Room 102  
Columbus, OH 43230

U.S. Fish & Wildlife Service  
Attn: Mary Knapp, Ph. D.  
4625 Morse Rd  
Suite 104  
Columbus, OH 43230

Ohio Historical Preservation Office  
567 East Hudson Street  
Columbus, OH 43211-1030

MSHA  
50985 National Road  
St. Clairsville, OH 43950

Michael Eggert  
Ohio EPA, Division of Drinking & Groundwater  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, OH 43216-1049

Debbie Woischke  
Division of Natural Areas & Preserves  
2045 Morse Road, Bldg. F-1  
Columbus, OH 43229-6693

Blaine Gerdes  
Division of Soil & Water Conservation  
2045 Morse Road, Bldg. B-3  
Columbus, OH 43229-6693

Christopher A. Davis  
Columbia Gas Transmission  
Route 2  
P.O. Box 138  
Sandyville, WV 25275

Lanny Erdos  
Division of Mineral Resources Management  
2050 East Wheeling Avenue  
Cambridge, OH 43725

Bruce Goff  
Ohio EPA, Southeast District Office  
2195 Front Street  
Logan, OH 43138

Belmont County Commissioners  
Courthouse  
Main Street  
St. Clairsville, OH 43950

Belmont County Planning Commission  
Courthouse  
Main Street  
St. Clairsville, OH 43950

Washington Township Trustees  
c/o Loretta Goddard, Fiscal Officer  
46540 E. Captina Hwy.  
Alledonia, OH 43902

Mike Kosek  
Division of Mineral Resources Management  
2050 East Wheeling Avenue  
Cambridge, OH 43725



IBR- 425-19

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

APPLICATION FOR INCIDENTAL BOUNDARY REVISION (IBR)  
(This form cannot be utilized for the removal of coal)

1. Applicant's Name: American Energy Corporation
2. Address: 43521 Mayhugh Hill Road  
City, State, Zip: Beallsville, Ohio 43716  
Telephone: 740-926-9152
3. Coal Mining Permit Number: D-0425 Mine Name Century Mine
4. Additional acres to be permitted: 4.0 MSHA # 33-01070
5. Acres to be deleted N/A
6. Has this acreage been affected under this permit?  
☐ Yes, ☒ No If "yes," list violation number(s).

Has this acreage previously been affected by other activities other than this permit?  
☐ Yes, ☒ No If "yes," describe:

7. Describe the reason this additional acreage is required.  
**Drill a ventilation air shaft for Century Mine, Permit D-0425, underground mine.**
8. Describe the activities to be conducted on this area.  
**Construction of shaft pad, diversion ditches, construction sump, electric sub-station,  
removing and stockpiling topsoil. See Addendum to Item 8.**

MAY 10 2010

Revised 05/07  
DNR-744-9005

2010-05-10

100-0623-19

AEC 07417

**Addendum to Item 8.  
Construction/Operation Plans  
American Energy Corporation**

The shaft will be drilled within the limits of the proposed I.B.R. at the location shown on the I.B.R. Map and on Sheet C1, Site Grading Plan. The shaft will have an inside diameter of 8 feet and will be constructed to a final surface elevation of 1305.00 feet. The shaft will be drilled to an approximate depth of 635 feet into the Pittsburgh #8 coal seam.

Site development will include construction of a construction sump, drainage ditches and sumps, drill pad, and an electric substation.

Equipment used will include dozers, pans, farm tractor, seed drill, and mulch spreaders.

Construction will begin by removing topsoil and stockpiling it at the location shown on the I.B.R. Map and the Site Grading Plan. The stockpile will be seeded and mulched immediately to prevent erosion. Stockpiled topsoil will not be disturbed or removed until required for re-soiling. Drainage controls and drill pad construction will then take place. Silt fences will be installed as shown on Sheet C1. Diversion ditches will be cut to ensure that surface water runoff will drain away from the construction sump. Proper construction methods will be utilized to ensure that all slopes are stable. Disturbed areas will be seeded and mulched immediately following construction to prevent erosion.

The facility within the proposed I.B.R. limits will be maintained throughout the life of the mining operation. Maintenance of the construction and typical sumps will take place until such time they are removed. Periodic inspections of the sumps as well as the annual inspection of the construction sump will be made by a registered professional engineer or by a person under the direct supervision of a registered professional engineer.

The construction sump will be maintained by company personnel while being utilized during drilling operations and throughout the life of the mine. The sump will only handle water and tailings resulting from the shaft drilling, it is not intended for use as a sediment control for the site and is not designed to discharge. All surface flow will be diverted away from the construction sump.

MAY 10 2010

9. List all surface and mineral owners within the IBR area.

Surface and Mineral Owner Names	County	Township	Section	Lot	T-	R-
Name <b>Nelson G. Lindsey</b> Address <b>P.O. Box 34</b> City <b>Alledonia</b> State <b>Ohio</b> Zip <b>43902</b> Surface <input checked="" type="checkbox"/> Mineral <input checked="" type="checkbox"/>	<b>Belmont</b>	<b>Washington</b>	<b>26</b>	<b>N/A</b>	<b>5</b>	<b>4</b>
Name <b>Consolidated Land Co.</b> Address <b>29325 Chagrin Blvd.</b> City <b>Pepper Pike</b> State <b>OH</b> Zip <b>44122</b> Surface <input type="checkbox"/> Mineral <input checked="" type="checkbox"/>	<b>Belmont</b>	<b>Washington</b>	<b>26</b>	<b>N/A</b>	<b>5</b>	<b>4</b>
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						

Application for an Incidental Boundary Revision  
Revised 02/06  
DNR-744-9005



10. Is any owner, holder or purchaser listed in item 9, a business entity other than a single proprietorship?

Yes ☒ No ☐ If "yes," submit Other Business Entities. **See attached Other Business Entities.**

11. Is any part of this IBR application area adjacent (within 100') to any lands, which are not owned by those persons identified in item 9?

Yes ☒ No ☐ If "yes," submit Adjacent Owners **See attached Adjacent Owners.**

12. Identify the right of entry documentation that is being provided that allows for coal mining operations on this IBR area:

- ☐ A copy of the right-of-entry documents attached as addenda, or  
☒ A Right-of-Entry Affidavit

**See addendum to IBR, Item 12 - Valid Existing Rights**

13. Has the private mineral estate (coal) been severed from the private surface estate?

Yes ☒ No ☐ If "yes," indicate which documentation is provided:

**See addendum to IBR, Item 12 - Mining Rights Summary**

☐ Surface Owners' Consent

☒ A copy of the document of conveyance that allows the proposed activities

☐ If the document of conveyance does not expressly allow the proposed activities, documentation that under state law the applicant has the legal authority to conduct the proposed activities.

14. Does the IBR application area include any area dedicated as a nature preserve pursuant to Chapter 1517 Ohio Revised Code?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

15. Does the IBR application area include any area within one thousand feet of the waterlines of any wild, scenic or recreational river dedicated pursuant to Chapter 1501 Ohio Revised Code?

Application for an Incidental Boundary Revision

Revised 02/06  
DNR-744-9005

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Consolidated Land Company**

Statutory agent **Stephen C. Ellis #842696**

Street Address **925 Euclid Avenue, Suite 1100**

City **Cleveland** State **Oh** Zip **44115**

Person's name **Robert D. Moore** Position **President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **Oh** Zip **44122**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **Oh** Zip **44115**

Person's name **Robert D. Moore** Position **Treasurer and Assistant Secretary**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **Oh** Zip **44115**

Person's name  Position

Street Address

City  State  Zip

Part 1: Section C

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**ADJACENT OWNERS**

Applicant's Name **American Energy Corporation**

Name of owner **Ira O. and Katherine L. Lepley**

Address **12756 Warwick Road**

City **Marshallville** State **OH** Zip **44645**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **Wilfred K. and Linda C. Perkins**

Address **54451 Pugh Ridge Road**

City **Alledonia** State **OH** Zip **43902**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **Virginia M. Knotts**

Address **46509 Main Street**

City **Jacobsburg** State **OH** Zip **43933**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **John E. & Johanna F. Thomas**

Address **45601 Oak Ridge Road**

City **Alledonia** State **OH** Zip **43902**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner

Address

City            State            Zip

☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

**Part 1: Section C**

Revised 02/06  
DNR-744-9013

**AEC 07422**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name American Energy Corporation

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. James R. Turner, Jr., being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document Lease

Execution Date August 20, 2008

Expiration Date Until such time as said easement is no longer necessary, in the opinion of the company, its successors and assigns, for the operation of its coal mining operation, and all equipment has been removed from the property and site has been reclaimed.

Parties: From Nelson G. Lindsey to American Energy Corporation

Description of land: Number of Acres 48.2

County Belmont Township Washington

Section 26 Lot 1

Explanation of legal rights claimed See Addendum to Right-of-Entry Affidavit Mining Rights Summary

Pending litigation Yes ☐ No ☒

[Signature] 10/16/2009 TREASURER  
Signature of Affiant Date Position

Sworn to before me and subscribed in my presence this 16<sup>th</sup> day of, October, 20 09

Kathy J. Roe  
Notary Public



KATHY J. ROE  
Notary Public, State of Ohio  
My Commission Expires Dec. 14, 2009

Part 1: Section C

**MEMORANDUM OF AGREEMENT**

20080006293  
 Filed for Record in  
 BELMONT COUNTY, OHIO  
 MARY CATHERINE NIXON  
 08-26-2008 At 09:11 am.  
 AGREE LEASE 28.00  
 OR Book 163 Page 491 - 492

Made this 20<sup>th</sup> day of August 2008.

BETWEEN

NELSON G. LINDSEY, single, of 55495 Alledonia Crabapple Road, Alledonia, Ohio 43902, hereinafter called "Landowner",

AND

AMERICAN ENERGY CORPORATION, an Ohio corporation, of 43521 Mayhugh Hill Road, Twp. Road 88, Beallsville, Ohio 43716, hereinafter called "Company".

WITNESSETH:

WHEREAS, by a certain Agreement, made and entered into August <sup>20, 2008</sup> 19, 2008, Landowner did grant to Company, tracts or parcels of land, which are situated in Section 26, Township 5 North, Range 4 West, Washington Township, Belmont County, Ohio, containing 48.2 acres, more or less, as more particularly described in a certain Certificate of Transfer dated November 30, 2001 and recorded on December 10, 2001 in Volume 773, Page 102, of the Belmont County Deed Records.

WHEREAS, in lieu of recording said Agreement, the parties hereto have executed and acknowledged and desire to place on record this Memorandum of Agreement.

LESSOR: Nelson G. Lindsey  
 55495 Alledonia Crabapple Road  
 Alledonia, OH 43902

LESSEE: American Energy Corporation  
 43521 Mayhugh Hill Road  
 Twp. Road 88  
 Beallsville, OH 43716

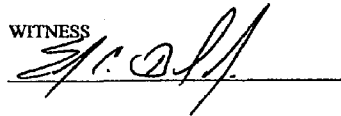
DATE OF AGREEMENT: August <sup>20</sup> 19, 2008

LEASED PREMISES: Easement upon, through, under, and over those certain tracts or parcels of land in Washington Township, Belmont County, Ohio described in Volume 773, Page 102, of the Belmont County Deed Records.

TERM: Agreement commenced on August <sup>20</sup> 19, 2008, and shall continue in force and effect until, in the opinion of the Company, perpetual easement is no longer necessary for the operation of its coal mining operation, and all equipment has been removed from the property and the site reclaimed.

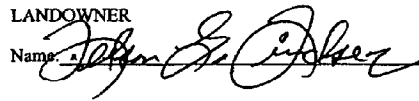
WITNESS the due execution hereof as of the day and year first above written.

WITNESS

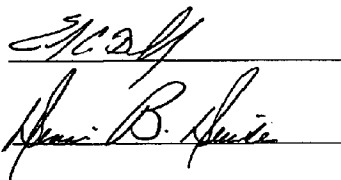


LANDOWNER

Name:



WITNESS

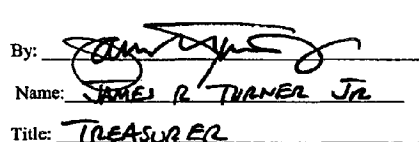


AMERICAN ENERGY CORPORATION

By:

Name:

Title:

  
 JAMES R. TURNER JR.  
 TREASURER



ACKNOWLEDGEMENT

STATE OF OHIO

COUNTY OF Belmont

On this 20th day of August before me, a Notary Public,  
 personally appeared Nelson G. Lindley, known to me to be the person (s)  
 described in the within and foregoing instrument, and who acknowledged to me that he (they)  
 executed the same for the purpose therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



JULIE WEBB  
 Notary Public, State of Ohio  
 My Commission Exp. May 14, 2013

Julie Webb  
 Notary Public

ACKNOWLEDGEMENT

STATE OF OHIO

COUNTY OF Belmont

On this 25th day of August 2008 before me, a Notary Public,  
 personally appeared James P. Turner Sr. who acknowledged  
 themselves to be the Treasurer of American Energy Corporation, and that as such officers being  
 duly authorized to do so, executed the foregoing instrument on behalf of such corporation for  
 the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



Denise B. Dierkes  
 Notary Public



DENISE B. DIERKES  
 Notary Public, State of Ohio  
 My Commission Expires May 28, 2008

This instrument was prepared by American Energy Corporation

200800006293  
 AMERICAN ENERGY CORPORATION  
 43521 MAYHUGH HILL ROAD  
 TWP ROAD 88  
 BEALLSVILLE OH 43716

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name American Energy Corporation

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. James R. Turner, Jr. being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Lease

Execution Date February 1, 2002

Expiration Date Until all mineable and merchantable coal has been  
depleted

Parties: From Consolidated Land Company to American Energy  
Corporation

Description of land: Number of Acres 90.5

County Belmont Township Washington

Section 20 and 26 Lot 1-4

Explanation of legal rights claimed See Addendum to Right-of-Entry Affidavit

Pending litigation Yes ☐ No ☒

[Signature] 8/19/09 TREASURER  
Signature of Affiant Date Position

Sworn to before me and subscribed in my presence this 19<sup>th</sup> day of,  
AUGUST, 2009

[Signature]  
Notary Public



Jean M. Snyder  
Notary Public, State of Ohio  
My Commission Expires 3-27-12

Part 1: Section C

ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

PAID 3134-

11787

VOL 707 PAGE 1

LIMITED WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS: THAT, WYOMING POCAHONTAS LAND CO., (fka Youghiogheny and Ohio Coal Company) an Ohio corporation, with office at 39 Robin Place, Beckley, WV 25801, hereinafter called "GRANTOR", in consideration of the sum of Ten Dollars (\$10) and other valuable considerations to it paid by Consolidated Land Company, an Ohio corporation, whose tax mailing address is Box 505, 34208 Aurora Road, Solon, Ohio 44139, hereinafter called "GRANTEE", the receipt and sufficiency of which are hereby acknowledged, does hereby GRANT, BARGAIN, SELL AND CONVEY with limited warranty covenants, to the Grantee, its successors and assigns, all of the remaining coal contained in or underlying the tracts of land more particularly described on Exhibit "A", attached hereto and made a part hereof.

TOGETHER with such mining rights and other rights and privileges pertinent to the tracts set forth on Exhibit "A".

(HEREINAFTER CALLED THE "Premises").

The Grantor makes no guarantee or warranty with respect to the quality or quantity of coal remaining in said premises herein conveyed and Grantee accepts said premises known as the Allison Mine in its present condition and circumstance.

TO HAVE AND TO HOLD such premises, unto the said Grantee, its successors and assigns, forever, EXCEPT AND SUBJECT as hereinbefore provided, and expressly SUBJECT to all legal highways, exceptions, reservations, conditions, servitudes, easements, rights, limitations and restriction shown by instrument of record.

AND the said Grantor hereby covenants with the said Grantee that said premises are free and clear from all encumbrances by, from or through the said Grantor, and except and subject as hereinbefore provided, and that the Grantor will warrant and defend the same to the Grantee, only as against the lawful claims

AEC 07427

ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

VOL 707 PAGE 2

and demands of all persons claiming by, through or under the said Grantor herein, but against none other.

All of the aforescribed Parcels are conveyed SUBJECT TO:

- (1) All matters of record as of the 1st day of March, 1995, said matters of record include but are not limited to the provisions contained in the description hereinbefore set forth and the provisions contained in all prior conveyances of record;
- (2) All liens for nondelinquent real property taxes and assessments;

IT is the intent of the Grantor herein to convey to the Grantee, its successors and assigns all of the Pittsburgh No. 8 coal and mining rights appurtenant thereto, situated in Belmont County, Ohio, of which the Grantor is seized at the date hereof.

IN WITNESS WHEREOF, Grantor has caused its name to be hereunto subscribed by its duly authorized officers, this 24th day of February, 1995.

Signed and acknowledged  
in the presence of:

Rama Blevis  
Rama Blevis

David Dove  
David Dove

Denise V. Stewart  
Denise V. Stewart

Karen Joseph  
Karen Joseph

[NOTE: TYPE OR PRINT NAME OF  
WITNESSES UNDER EACH SIGNATURE]

WYOMING POCAHONTAS LAND CO.,  
an Ohio Corporation

By Hubert Payne  
Hubert Payne  
Its President

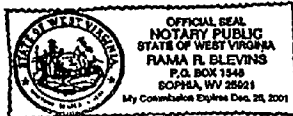
By Lauren Slone  
Lauren Slone  
Its Secretary

STATE OF West Virginia,  
COUNTY OF Belmont, SS:

On this the 24th day of February, 1995, before me, the undersigned Notary Public, personally appeared Hubert Payne, who acknowledged himself to be President of Wyoming Pocahontas Land Co., an Ohio corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as President.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.

Rama R. Blevis  
Notary Public  
My Commission Expires: Dec 23, 2001



ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

STATE OF Kentucky  
COUNTY OF Belmont, SS:

VOL 707 PAGE 3

On this the 2nd day of March, 1995, before me, the undersigned Notary Public, personally appeared Lauren Slone, who acknowledged herself to be Secretary of Wyoming Pocahontas Land Co., an Ohio corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as Secretary.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.

Denise V. Stewart  
Notary Public  
My Commission Expires: March 3, 1997

This Instrument Prepared By:  
HANLON, DUFF, PALEUDIS & ESTADT CO., LPA  
46457 National Road West  
St. Clairsville, OH 43950

NEW DESCRIPTION  
NECESSARY FOR FUTURE  
TAX MAP TRANSFER

BY F. F. Bennett  
FRED F. BENNETT  
BELMONT COUNTY ENGINEER

TRANSFERRED  
FEE \$62.00 DATE 3-24-95  
SECT. 319.202 R.C. FEE \$14400.00  
J.A. RAPPANO, AUDITOR  
David Appellone DEPUTY

BELMONT CO. RECORDS & DEEDS  
VOL 707 PAGE 1  
MAR 24 3 43 PM '95  
RECORDED MAR 27 1995  
STANLEY S. MC CIG  
RECORDS

ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

VOL 707 PAGE 523

rods; thence north 31 rods; thence southeast 31 rods to the place of beginning, containing One acre, more or less.

PARCEL NO. 49 (58) - WASHINGTON TOWNSHIP

First Tract

The southeast Quarter of the southeast quarter of Section Thirty-two (32), Township five (5), Range four (4), containing forty acres more or less.

Second Tract

The northeast quarter of the northeast quarter of Section thirty-one (31), Township and Range aforesaid, containing forty acres, more or less.

Third Tract

Situate in the southwest quarter of the southeast quarter of Section 32, and in the northwest quarter of the northeast quarter of Section 31, Township and Range aforesaid; bounded and described as follows: Beginning at the northeast corner of the southwest quarter of the southeast quarter of Section 32; thence west with the north boundary of said quarter quarter, 38 poles to a corner on the east side of a small run; thence down said run to its junction with a large run, and to a large sand rock in a small drain near the top of the first bank on the south side of said large run; thence in a straight line to a white oak tree on a line dividing the northwest quarter of the northeast quarter of Section 31, east and west in the center; thence east with said center line 12 poles to the center of the west boundary of the northeast quarter of the northeast quarter of said Section 31; thence north with said west boundary and with the west boundary of the southeast quarter of the southeast quarter of Section 32, 120 poles to the place of beginning, containing Twenty acres, more or less.

Fourth Tract

Situate in the northwest corner of Section 25, Township and Range aforesaid, bounded and described as follows: Beginning for the same on the south bank of the right hand fork of Crabapple Creek and on the west boundary line of said Section; thence south with said line so far as will include one acre by running a line from the said Section line due east to the west bank of the left hand fork of said Crabapple Creek; thence down the said left hand fork to its junction with the right hand fork; thence up said right hand fork to the place of beginning, containing One Acre. And containing in all of said tracts, One Hundred and One (101) Acres, more or less; and being a part of the premises of which Jesse Taylor died seized.

PARCEL NO. 50 (59) - WASHINGTON TOWNSHIP

Known as and being the southwest quarter of the southwest quarter of Section thirty-one (31), Township five (5), Range four (4); also the southeast quarter of the southwest quarter of Section thirty-one (31), Township Five (5), Range four (4), containing in all Eighty Acres, more or less.

PARCEL NO. 51 (60) - WASHINGTON TOWNSHIP

First Tract

Being a part of the west half of Section 20, Township 5, Range 4, and a part of the northeast quarter of Section 26, Township 5, Range 4; Beginning for the same at the northwest corner of said Section 20; thence south 25° east 265 poles; thence west 69 poles to a post planted in the run on the south boundary of said tract;

ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

VOL 707 PAGE 524

thence north  $12\frac{1}{4}^{\circ}$  west 50 poles to a small ironwood; thence north  $30-3\frac{3}{4}^{\circ}$  west 63 poles to a White Walnut standing on the west boundary of said Section 20; thence with said section line north 37 poles; thence north  $35\frac{1}{4}^{\circ}$  west 40 poles to a stone; thence north  $37^{\circ}$  west 85.70 poles to a stone on the north boundary of said Section 26; thence east 74.60 poles to the place of beginning; containing Ninety (90) Acres and Eighty-six (86) Perches, more or less.

Second Tract

Being a part of the west half of Section 20, Township 5, Range 4, and a part of the east half of Section 26, Township 5, Range 4; Beginning for the same at the northwest corner of the east half of said Section 26; thence south 187.15 poles; thence east 40 poles; thence south 13.35 poles to a stone; thence east 40 poles to the east boundary of said Section 26; thence south 40 poles to a stone; thence east 43 poles to a post planted in the run; thence north  $12\frac{1}{4}^{\circ}$  west 57 poles to an Ironwood; thence north  $30\frac{1}{4}^{\circ}$  west 63 poles to a White Walnut on the west boundary of said Section 20; thence north 37 poles to a stone; thence north  $35\frac{1}{4}^{\circ}$  west 40 poles to a stone; thence north  $37^{\circ}$  west 85.70 poles to a stone on the north boundary of said Section 26; thence west 5.40 poles to the place of beginning; containing Ninety (90) Acres and Eighty (80) Perches, more or less.

EXCEPTING therefrom the following described tract, conveyed by Mathias Shipman to John Wright; beginning at a stone at the northwest corner of the east half of the northeast quarter of said Section 26; thence east 2 rods; thence south  $32^{\circ}$  east  $27\frac{1}{4}$  rods to a stone; thence South  $45^{\circ}$  west 25 rods to a stone; thence north 40 rods to the place of beginning; containing 2 acres and 33 perches, more or less.

EXCEPTING ALSO the following described tract, being a part of the east half of the southeast quarter of Section 26, and commencing for the same at a point in said east half quarter, 40 rods south of the north boundary and 14.55 rods west of the east boundary of said east half quarter section; thence west 25.45 rods; thence north 13.35 rods; thence west 40 rods to a stone planted; thence north  $9/10$  rods; thence east 60.36 rods; thence in a southerly direction 15.45 rods to the place of beginning; containing 3 acres, more or less.

Third Tract

Situated in the Township of Washington, County of Belmont and State of Ohio, and known as and being a part of the east half of the southeast quarter of Section 26, Township 5, Range 4, and beginning for the same at a point in the section line between Section 26 and Section 20, 61.81 rods south of the northeast corner of said half quarter section, and running thence north with said section line 21.81 rods to a point in said line 40 rods south of said northeast quarter corner; thence west 14.55 rods; thence in a straight line 26.22 rods to the place of beginning; containing 1 acre, more or less.

PARCEL NO. 52 (63) - WAYNE TOWNSHIP

Known as and being all that part of the southeast quarter of the northwest quarter of Section 2, Township 6, Range 5, which lies east of the middle of Piney Creek, containing Ten (10) Acres, more or less.

PARCEL NO. 53 (64) - WAYNE TOWNSHIP

Being the north half of the northwest quarter of Section two (2), Township six (6), Range five (5), containing seventy-nine and one-half ( $79\frac{1}{2}$ ) acres, more or less.

ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

VOL 707 PAGE 528

district of lands formerly for sale at Marietta, Ohio, containing 20 acres, more or less, and being the same lands conveyed by Martha Kirkbride to Ebenezer Taylor by deed dated July 1, 1849, and recorded in Volume 33, at page 444.

Fourth Tract

Being a part of the southwest quarter of the southeast quarter of Section 32, Township 5, Range 4, together with a part of the northwest quarter of the northeast quarter of Section 31, Township 5, Range 4; beginning for the same at the northwest corner of said southwest quarter of the southeast quarter of Section 32; thence east with the north boundary of said quarter 42 poles to a corner on the east side of a small run; thence down said run to its junction, with a larger run, and to a large sand rock in a small drain near the top of the first bank on the south side of said larger run; thence on a straight to a White Oak tree on the east and west line dividing in the center the said northwest quarter of the northeast quarter of Section 31; thence west with said center line 68 poles to a corner on the west boundary of said last mentioned quarter of quarter; thence north 120 poles to the place of beginning; containing 40 acres more or less.

PARCEL NO. 62 (82) - WAYNE TOWNSHIP

PARCELS NO. 62 THROUGH 71 LEFT INTENTIONALLY BLANK.

Said tracts of coal hereinabove described under the headings "PARCEL NO. 1" to "PARCEL NO. 71", inclusive, being the same tracts of coal respectively described under the headings "PARCEL NO. 1", to "PARCEL NO. 71" inclusive, in the deed from The Cleveland Trust Company, Trustee under the Last Will and Testament of William D. Rees, deceased, to S. H. Robbins, dated July 1st, 1918, recorded in Volume 218, Page 2 et seq. of the Deed Records of Belmont County, Ohio; which tracts of coal are respectively referred to under the headings "PARCEL NO. 1" to "PARCEL NO. 71", inclusive, in said deed from The Cleveland Trust Company, Trustee, to S. H. Robbins, as having been conveyed to Peter M. Hitchcock and William D. Rees from the various grantors therein respectively named, by the various deeds therein respectively specified by date and by volume and page of record; to which deed from The Cleveland Trust Company, Trustee, to S. H. Robbins, and to each of which deeds from various grantors to Peter M. Hitchcock and William D. Rees, therein mentioned, reference is hereby made.

Together with all easements, options, rights and privileges described in, and granted by, said deed from The Cleveland Trust Company, Trustee, to S. H. Robbins, dated July 1st, 1918, under said headings, "PARCEL NO. 1" to "PARCEL NO. 71", inclusive, thereof, which easements, options, rights and privileges are therein defined as being those described in the respective deeds from the various grantors to Peter M. Hitchcock and William D. Rees, above referred to, and as being contained in said various deeds in form and language as follows:

"Together with the free and uninterrupted rights of way into, upon and under said described land, at such points, and in such manner as may be useful for the purpose of digging, draining and ventilating, and mining and removing said coal, together with the privilege of mining and removing through said described premises other coal belonging to said Grantees, their heirs and assigns, or which may hereafter be acquired, together with the right and privilege to make drains on the surface, and air holes, and change the same as the convenience of mining may require, together with all mining privileges on said surface or under it necessary for the removal of all of the Pittsburgh Vein underlying the same and neighboring properties now owned, or hereafter acquired by said Grantees, their heirs and assigns; and

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ADDENDUM TO INCIDENTAL BOUNDARY REVISION, ITEM 12

VOL 707 PAGE 529

said Grantees, their heirs and assigns, shall in no wise be liable for damages for failure to support the overlying surface, or for the sinking or falling in of said surface, or for destroying any spring or well of water, or for diverting any water flow or natural stream by reason of the removal of said coal or the exercise of any of the above mining privileges."

"It is expressly understood and agreed that the enumeration herein is in enlargement and not in restriction of the incidental rights accruing to said Grantees, by virtue of the within grant of coal and mining privileges."

"And together with the right to use and occupy such amount of surface of the above described land as may in the opinion of said Grantees, their heirs and assigns, from time to time, be useful for the purpose of mining said coal or exercising any rights incidental thereto, or that may be useful for the deposit of gob or refuse from said mines, or for carrying on the coal business and for the erection of buildings and machinery and tenant houses, and all other buildings needful or useful to carry on the coal business, or for the construction thereon of tracks, shafts, mine openings and other structures, and for the operation of railroads; and the said Grantors do, for themselves and their heirs, executors, administrators and assigns, covenant and agree that Grantors will upon demand and payment of, at the rate not exceeding One Hundred Dollars per acre, by the Grantees, their heirs and assigns, execute and deliver unto said Grantees, their heirs, and assigns, a good and sufficient deed of General Warranty, (and furnish therewith a complete Abstract of Title showing said lands to be free and clear of liens and encumbrances), conveying in fee simple, clear of liens and encumbrances, such amount of the above described land as Grantees in their opinion may require for the purposes herein next above set forth, And said Grantees agree to purchase the same at not exceeding said above stipulated price per acre."

"The Grantors reserve the rights to bore or dig through said vein of coal for oil or gas, but such boring or digging shall not interfere with the mining or removal of said coal."

It being expressly understood and agreed that the words "Grantor" or "Grantors", as used in the foregoing grant of rights and options, refer to the Grantors of Peter M. Hitchcock and William D. Rees, and not to The Cleveland Trust Company, Trustee, as Grantor in said deed to S. H. Robbins, or to said S. H. Robbins, as Grantor in former deed, and that in the execution and delivery of the former deed, said S. H. Robbins did assign and make over to The Cleveland Trust Company, as Grantee therein, only the interest which said S. H. Robbins had in such rights and options.

PARCEL NO. 72 (2) - WASHINGTON TOWNSHIP

Known as and being the northwest quarter of the northwest quarter of Section twenty-six (26) and the northeast quarter of the northeast quarter of Section thirty-two (32), in Township Five (5), of Range four (4), in the district of Marietta and State of Ohio, containing eighty acres, more or less.

Being the same tract of coal described under the heading "PARCEL NO. 72" in the deed from The Cleveland Trust Company, Trustee, to S. H. Robbins, dated July, 1918, recorded in Vol. 218, Page 2, et seq., of the Deed Records of Belmont County, Ohio; and being therein referred to as having been conveyed by Elizabeth Myers (unmarried) to Peter M. Hitchcock and William D. Rees, by deed dated April 9, 1903, and recorded in Vol. 145, Page 201 of the Deed Records of Belmont County, Ohio; to which deeds reference is hereby made.

TOGETHER with all easements, options, rights and privileges described in, and granted by, said deed from The Cleveland Trust

**American Energy Corporation**  
Lindsey Shaft Site

**Addendum to Item 12**  
**Mining Rights Summary**

Item 1. **DEED VOLUME 145 PAGE 416:** Mary A. Loudon, widow, Sarah E. Daugherty and Albert A. Daugherty, her husband, and Emmett H. Shipman, unmarried, **GRANTORS**, to Peter M. Hitchcock and William D. Rees, **GRANTEES**: (JUNE 17, 1903)

"... the Grantors, of the County of Belmont and State of Ohio, ... do give, grant, bargain, sell and convey unto the said Grantees, their heirs and assigns forever, all the stone coal contained in the vein commonly known as the Pittsburg Vein and geologically known as Seam No. 8, in and underlying all that tract of land lying and situate in Washington Township, in the County of Belmont and State of Ohio ..."

"Said Grantors hereby convey to said Grantees, their heirs and assigns, all the No. 8 coal which they own in said Sections 20 and 26.

Together with the free and uninterrupted rights of way into, upon, and under said described land, at such points, and in such manner as may be useful for the purpose of digging, draining and ventilating, and mining and removing said coal together with the privilege of mining and removing through said described premises, other coal belonging to said Grantees, their heirs and assigns, or which may be hereafter acquired, together with the right and privilege to make drains on the surface, and air holes, and change the same as the convenience of mining may require, together with all mining privileges on said surface or under it necessary for the removal of all of the Pittsburg Vein underlying the same and neighboring properties now owned, or hereafter acquired by said Grantees their heirs and assigns; and said Grantees, their heirs and assigns, shall in no wise be liable for damages for failure to support the overlying surface, or for the sinking or falling in of said surface, or for destroying any spring or well of water, or for diverting any water flow or natural stream by reason of the removal of said coal or the exercise of any of the above mining privileges.

It is expressly understood and agreed that the enumeration herein is in enlargement and not in restriction of the incidental rights accruing to said Grantees, by virtue of the within grant of coal and mining privileges.

And together with the right to use and occupy such amount of surface of the above described land as may in the opinion of said Grantees, their heirs and assigns from time to time, be useful for the purpose of mining said coal or exercising any rights incidental thereto, or that may be useful for the deposit of gob or refuse from said mines, or for carrying on the coal business and for the erection of buildings and machinery and tenant houses and all other buildings needful or useful to carry on the coal business, or for the construction thereon of tracks, shafts, mine openings and other structures, and for the operation of railroads; and the said Grantors do for themselves and their heirs, executors, administrators and assigns covenant and agree that Grantors will upon demand and payment of, at the rate not exceeding One Hundred Dollars per acre, by the Grantees, their heirs and assigns, execute and deliver unto said Grantees, their heirs and assigns, a good and sufficient deed of General Warranty

(and furnish therewith a complete Abstract of Title showing said lands to be free and clear of liens and encumbrances), conveying in fee simple, clear of liens and encumbrances, such amount of the above described land as Grantees in their opinion may require for the purpose herein next above set forth. And said Grantees agree to purchase the same at not exceeding said above stipulated price per acre.

The Grantors reserve the rights to bore or dig through said vein of coal for oil or gas, but such boring or digging shall not interfere with the mining or removal of said coal."

Item 2. **DEED VOLUME 218 PAGE 2:** The Cleveland Trust Company, Trustee, **GRANTOR**, under the Last Will and Testament of William D. Rees, deceased, to S.H. Robbins, **GRANTEE**, dated **JULY 1<sup>st</sup>, 1918**. Tracts of coal are respectively referred to under the headings "PARCEL NO. 1" to "PARCEL NO. 71", inclusive. Together with all easements, options, rights and privileges described in, and granted by, said aforementioned deed.

Item 3. **DEED VOLUME 255 PAGE 600:** S.H. Robbins, **GRANTOR**, to The Cleveland Trust Company, **GRANTEE**; "Whereas S.H. Robbins by various deeds of record is the holder of the legal title to certain undivided interests in, or to all, the coal of the vein commonly known as the Pittsburgh vein, and geologically known as Seam No. 8, in and underlying certain tracts of land situated in Washington Township and Wayne Township, Belmont County, Ohio, and also in and underlying certain tracts of land situated in Monroe County, Ohio, together with appurtenant rights, options, privileges and easements, and is also the holder of the legal title in fee- simple to two certain tracts of land, and to an undivided one-half interest in a third tract of land, all situated in Washington Township, Belmont County, Ohio; and the said S.H. Robbins has by four deeds executed this date conveyed said property and rights to The Cleveland Trust Company, intending thereby to cover and convey all the property and rights held by him, as above stated, in said Washington and Wayne Townships, Belmont County, Ohio, and in Monroe County, Ohio:

Whereas, said S.H. Robbins desires to better assure to the Grantee the entire title to all of the property and rights so held by him, and to cure any misdescriptions that may by any possibility have occurred in said four deeds so executed to The Cleveland Trust Company, and any possible omissions therefrom of any property or rights held by him in Washington and Wayne Townships, Belmont County, Ohio, and in Monroe County, Ohio, as hereinabove stated;"

"All real property of every kind and nature, and all appurtenant rights, options, privileges and easements, situated in Washington Township and/or Wayne Township, Belmont County, Ohio, and/or in Monroe County, Ohio, the legal title to which is now held by said S.H. Robbins and is of record on this date in his name in the Recorder's office of Belmont County and/or Monroe County, Ohio." **(SEPTEMBER 23, 1925)**

Item 4. **DEED VOLUME 263 PAGE 62:** S.H. Robbins, unmarried, **GRANTOR**, to The Cleveland Trust Company, **GRANTEE**, the undivided one-half of all the stone coal contained in the vein commonly known as the Pittsburgh vein, and geologically known as Seam No. 8, in and underlying all of the following tracts or parcels of land, situated in the County of Belmont and State of Ohio. (**SEPTEMBER 2, 1925**)

Item 5. **DEED VOLUME 348 PAGE 68:** The Cleveland Trust Company, **GRANTOR**, to The Youghiogheny & Ohio Coal Company, **GRANTEE**:

"**BLOCK I** The undivided one-half (1/2) of all the stone coal contained in the vein commonly known as the Pittsburgh Vein and geologically known as Seam No. 8, in and underlying all the following tracts or parcels of land described in this Block numbered I hereof, situated in the County of Belmont and State of Ohio:

... PARCEL NO. 51 (60) – WASHINGTON TOWNSHIP

... Second Tract" (JANUARY 24, 1945)

Item 6. **DEED VOLUME 382 PAGE 81:** Berkshire Farm, Inc., **GRANTOR**, to The Youghiogheny and Ohio Coal Company, **GRANTEE**: "... Berkshire Farm, Inc., ... the Grantor, ... , does give, grant, bargain, sell and convey unto the said Grantee, its successors and assigns, the undivided one-half (1/2) interest heretofore acquired and owned by Peter M. Hitchcock in and to the following described property:"

"**BLOCK I** All the stone coal contained in the vein commonly known as the Pittsburgh Vein, and geologically known as Seam No. 8 in and underlying all of the following parcels and tracts of land situated in Washington and Wayne Townships, Belmont County, Ohio, and Sunbury Township, Monroe County, Ohio, together with the appurtenant easements, options, mining rights, and other rights and privileges hereinafter described:"

... PARCEL NO. 51 (60) – WASHINGTON TOWNSHIP

... Second Tract" (MARCH 3, 1949)

Item 7. **LIMITED WARRANTY DEED VOLUME 707 PAGE 1:** Wyoming Pocahontas Land Company, (fka Youghiogheny and Ohio Coal Company), **GRANTOR**, to Consolidated Land Company, **GRANTEE**: It is the intent of the Grantor herein to convey to the Grantee, its successors and assigns, all of the Pittsburgh No. 8 coal and mining rights appurtenant thereto, situated in Belmont County, Ohio, of which the Grantor is seized at the date hereof. (**FEBRUARY 24<sup>th</sup>, 1995**)

Item 8. **MEMORANDUM OF LEASE O.R. VOLUME 112 PAGE 161:** Consolidated Land Company, **LESSOR,** and American Energy Corporation, **LESSEE:**

"The date of execution of the Lease is: February 1, 2002."

"The date of commencement of the term of the Lease was: February 1, 2002."

"The term of the Lease is for a period lasting until all mineable and merchantable coal has been depleted."

"This Memorandum is executed for recording. The Lease contains and sets forth other important terms and provisions which are incorporated herein by reference." (MAY 23, 2003)

The property rights (mining rights) which have been granted to American Energy Corporation by the documents cited above where in existence on August 3, 1977. Documents cited above authorizes the applicant to produce coal by a mining operation.

The coal is needed for, and immediately adjacent to, the ongoing coal mining operation which began in 1967 (Allison Mine, D-0425) for which all mine plan approvals and permits were obtained prior to August 3, 1977.

**Addendum to Right-of-Entry Affidavit  
Summary of Mining Rights**

**Consolidated Land Company  
to  
American Energy Corporation**

**ITEM 1. Mining Rights to the following Parcel contained in Deed Volume 707 Page 1, Limited Warranty Deed, Wyoming Pocahontas Land Company, (fka Youghioghney and Ohio Coal Company), GRANTOR, to Consolidated Land Company, GRANTEE:**

**Pages 523-524, Parcel No. 51 (60), Second Tract (2-13-111); Mining Rights as described on Pages 528-529 as follows;**

**"Together with the free and uninterrupted rights of way into, upon and under said described land, at such points, and in such manner as may be useful for the purpose of digging, draining and ventilating, and mining and removing said coal, together with the privilege of mining and removing through said described premises other coal belonging to said Grantee, their heirs and assigns, or which may hereafter be acquired, together with the right and privilege to make drains on the surface, and air holes, and change the same as the convenience of mining may require, together with all mining privileges on said surface or under it necessary for the removal of all of the Pittsburgh Vein underlying the same and neighboring properties now owned, or hereafter acquired by said Grantees, their heirs and assigns; and said Grantees, their heirs and assigns, shall in no wise be liable for damages for failure to support the overlying surface, or for the sinking or falling in of said surface, or for destroying any spring or well of water, or for diverting any water flow or natural stream by reason of the removal of said coal or the exercise of any of the above mining privileges."**

**"It is expressly understood and agreed that the enumeration herein is in enlargement and not in restriction of the incidental rights accruing to said Grantees, by virtue of the within grant of coal and mining privileges."**

**"And together with the right to use and occupy such amount of surface of the above described land as may in the opinion of said Grantees, their heirs and assigns, from time to time, be useful for the purpose of mining said coal or exercising any rights incidental thereto, or that may be useful for the deposit of gob or refuse from said mines, or for carrying on the coal business and for the erection of buildings and machinery and tenant houses, and all other buildings needful or useful to carry on the coal business, or for the construction thereon of tracks, shafts, mine openings and other structures, and for the operation of railroads; and the said Grantors do, for themselves and their heirs, executors, administrators and assigns, covenant and agree that Grantors will upon demand and payment of, at the rate not exceeding One**

Hundred Dollars per acre, by the Grantees, their heirs and assigns, execute and deliver unto said Grantees, their heirs, and assigns, a good and sufficient deed of General Warranty, (and furnish therewith a complete Abstract of Title showing said lands to be free and clear of liens and encumbrances), conveying in fee simple, clear of liens and encumbrances, such amount of the above described land as Grantees in their opinion may require for the purposes herein next above set forth, and said Grantees agree to purchase the same at not exceeding said stipulated price per acre."

"The Grantors reserve the rights to bore or dig through said vein of coal for oil or gas, but such boring or digging shall not interfere with the mining or removal of said coal."

It being expressly understood and agreed that the words "Grantor" or "Grantors", as used in the foregoing grant of rights and options, refer to the Grantors of Peter M. Hitchcock and William D. Rees, and not to The Cleveland Trust Company, Trustee, as Grantor in said deed to S.H. Robbins, or to said S.H. Robbins, as Grantor in former deed, and that in the execution and delivery of the former deed, said S.H. Robbins did assign and make over to The Cleveland Trust Company, as Grantee therein, only the interest which said S.H. Robbins had in such rights and options.

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

16. Does the IBR application area include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas or wild and scenic rivers or river corridors including those rivers under study?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

17. Does the IBR application area include any federally owned lands within the boundaries of any national forest?

Yes ☐ No ☒ If "yes," submit approval of U.S. Secretary of Interior or proof of valid existing rights.

18. Will operations conducted within this IBR adversely affect any publicly owned park or places included on the National Register of Historic Places?

Yes ☐ No ☒ If "yes," submit joint approval from the chief and the federal, state or local agency with jurisdiction over the park or places or proof of valid existing rights and describe the measures to be used to prevent or minimize these impacts.

~~Valid Existing Rights~~

19. Will operations conducted within this IBR affect land within one hundred feet of the outside right-of-way of a public road or result in mining through a public road?

Yes ☒ No ☐ If "yes," list the public road(s) in the space below and submit Public Road Consent or proof of valid existing rights.

~~County Highway 86 and Township Road 1544. See addendum to IBR, Item 12.~~

~~Valid Existing Rights~~

20. Will operations conducted within this IBR affect land within three hundred feet of any occupied dwelling?

Yes ☒ No ☐ If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing rights.

~~See addendum to IBR, Item 12 - Valid Existing Rights~~



21. Will operations conducted within this IBR affect land within three hundred feet of any public building, school, church, community or institutional building or public park?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

22. Will operations conducted within this IBR affect land within one hundred feet of a cemetery?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights or appropriate authorization to relocate the cemetery.

23. Is this IBR application area within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding?

Yes ☐ No ☒

If "yes," did the applicant make substantial legal and financial commitments in this IBR application area prior to January 4, 1977? Yes ☐ No ☐ If "yes," provide documentation supporting the assertion that the commitments were made prior to January 4, 1977.

24. In order to address the nature of cultural, historic and archeological resources, submit Archeology - Surface.

25. Describe the uses of the land existing at the time of the filing of this IBR application area and provide a map delineating the area and acreage of each land use.

**The proposed I.B.R. area is composed of 4.0 acres of pastureland. See Addendum to IBR Item 25, Land Use Exhibit Map.**

26. Describe the use of the land, including the creation of permanent impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. Provide a map that delineates the area and acreage of each proposed land use, and submit assurance of maintenance for each permanent impoundment.

**The use of the land following reclamation will be pastureland. See. I.B.R. Map.**

**The post-mining land use for this area will be aesthetically appropriate and corresponds with adjacent land uses. Grasses and legumes will be used as a**

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY - SURFACE

1. Applicant's Name **American Energy Corporation**  
Address **43521 Mayhugh Hill Road**  
City **Beallsville** State **Ohio** Zip **43716**
2. Contact Person **Jack A. Hamilton & Associates, Inc.** Phone **740-968-4947**
3. Location and Acreage Information  
County **Belmont** Township **Washington**  
Section **26** Lot(s) **N/A T-5, R-4**  
USGS Quadrangle **Armstrong Mills** Acreage **4.0**
4. Application Map Attached: (area described in 3 above is to be outlined on the map)
5. Previous Disturbance:

☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: ☐

Residential: ☐

Mining: ☐

Pasture: ☒ 100%

Secondary Forest Growth: ☐

Has area been clear cut logged? Yes ☐, No ☐  
If "yes," indicate approximate date(s) of logging.

Other: ☐

7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **NONE**

Adjacent areas: **NONE**

9. **SHPO please send this form to:**  
Division of Mineral Resources Management  
Attn: Division Archeologist  
2045 Morse Road, Building H-3  
Columbus, Ohio 43229-6693

---

**FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY**

(check appropriate space)

- A. ☒ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

☐

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

- B. ☒ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer \_\_\_\_\_

SHPO # \_\_\_\_\_

Date \_\_\_\_\_

Part 2: Section A

**Addendum to Item 26  
Reclamation Plan Narrative  
American Energy Corporation**

Upon abandonment all facilities will be dismantled and removed from the site. During reclamation the waste tailings generated from drilling the shaft and stored in the construction sump will be returned to the shaft and sealed during mine closure. The shaft will be sealed as shown on Sheet C4, Borehole Reclamation Detail. The appropriate utility companies will be notified to discontinue service and the utility structures will be dismantled and removed. The facilities will be removed within two years following the completion of coal removal from the mine.

After the facilities have been removed and tailings returned to the shaft, the area will be re-graded to the approximate original contour. Since the area will be returned to its approximate original contour, restored drainage patterns will not differ significantly from original drainage patterns and final grades will approximate the original grades. No permanent impoundments are proposed for this site.

All topsoil will be redistributed. Redistribution will be achieved by hauling or pushing all topsoil from the storage area. A uniform thickness of at least six inches will be distributed. Excessive compaction will be avoided by not redistributing extremely wet soils and preventing equipment from continually retracing their tracks and discing between applications if placing of topsoil results in over compaction. Diversion ditches, establishment of prompt vegetation and a suitable mulch and/or other stability practices will be used on all resoiled areas per rule 1501:13-9-1(e)(1).

Re-soiling will commence and be completed on graded areas during the first appropriate planting/growing season following completion of grading unless precluded by climatic conditions. Re-soiling should normally occur between April 1 and October 1.

Temporary vegetation will be planted immediately after re-soiling or disturbance of areas that require temporary vegetation, weather permitting.

APR 19 2010

ORIGINAL

IBR - 0425 - 19

AEC 07446

**Addendum to Item 26  
Reclamation Plan Narrative  
American Energy Corporation**

**Permanent seeding will follow re-soiling operations within 30 days and in accordance with the approved plan unless precluded by climatic conditions.**

**The species listed below will be used for the post-mining land use of pastureland:**

**SPECIES**

**7lbs./ac. Ladino Clover    8lbs./ac. Orchard Grass**

**10lbs./ac. Red Clover    10lbs./ac. Timothy**



4.0 Acres Pre-Mining Land Use: Pastureland  
4.0 Acres Post-Mining Land Use: Pastureland

LEGEND  
----- IBR LIMITS

ADDENDUM TO IBR ITEM 25

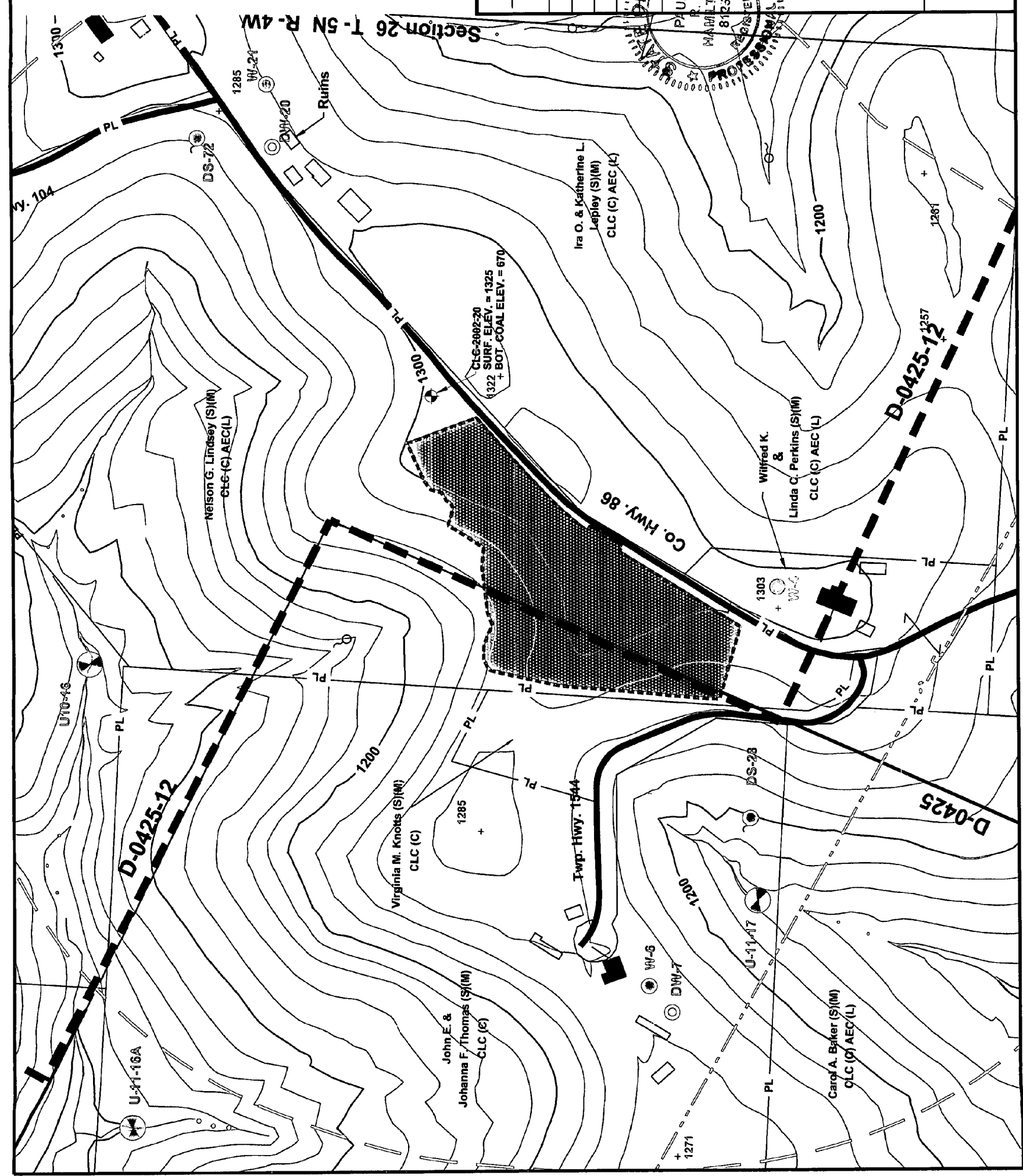
LAND USE EXHIBIT MAP  
AMERICAN ENERGY CORPORATION

SECTION: 26 TWP-WASHINGTON T-5N, R-4W  
COUNTY: BELMONT, OHIO  
SCALE: 1"= 200'  
CONTOUR INTERVAL: 20'  
DATE PREPARED: June 26, 2009  
DATE REVISED: 09-28-09, 03-05-10

PAUL I, the undersigned, hereby certify that to the best of my knowledge and belief, this map is true and correct.  
REGISTERED SURVEYOR # 8125 PS 8125 3-11-10  
Date

Acknowledged before me a Notary Public this 1<sup>st</sup> day of May 2010  
Arlene Warner  
Notary Public, State of Ohio  
My Commission Expires July 22, 2012

342 High St., Box 471  
Flushing, Ohio 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
e-mail: hamilton@1st.net  
www.hamiltonandassoc.com





cover crop. Following reclamation, the capability and productivity of the land will be greater than that at the present time. The reclaimed land could support uses such as grazing land, cropland, undeveloped recreational uses and wildlife habitat uses.

27. Submit Surface Owner Comments from the legal or equitable owner(s) of record of the IBR application area concerning the proposed land use.

**See Surface Owner Comments - Nelson G. Lindsey**

28. Is the post-mining land use to be different from the pre-mining land use?

Yes ☐ No ☒ If "yes," submit Land Use Change Notification.

29. Submit Negative PFL Determination for areas within this IBR application area that are not prime farmland.

Having considered the negative determinations, does this IBR application area include any land that is prime farmland? Yes ☐ No ☒

If "yes," submit PFL Restoration Plan or describe how this area will be avoided.

30. Are any of the variances listed below being requested?

Yes ☒ No ☐ If "yes," identify the variances and submit the applicable request(s) as an addendum.

☐ Stream buffer zone ☒ Small area drainage exemption

31. Will the proposed IBR area result in diversions of overland flow away from the disturbed area?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

32. Will the proposed IBR area result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds?

Yes ☒ No ☐ If "yes," provide the required engineering designs.

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

SURFACE OWNER COMMENTS

TO: American Energy Corporation

FROM: Nelson G. Lindsey

Location of Proposed Permit Area:

County/Twp: Delmont / Washington	Lot/Section: 26
----------------------------------	-----------------

The proposed postmining land use(s) for your property is/are checked below:

<input checked="" type="checkbox"/> Cropland	<input type="checkbox"/> Residential Land Use
<input checked="" type="checkbox"/> Pasture Land	<input type="checkbox"/> Forest
<input type="checkbox"/> Grazing Land	<input type="checkbox"/> Undeveloped Land Use
<input type="checkbox"/> Industrial Land Use	<input type="checkbox"/> Fish & Wildlife
<input type="checkbox"/> Commercial Land Use	<input type="checkbox"/> Recreation Land Use
<input type="checkbox"/> Developed Water Resources	

Pursuant to 1501:13-4-05(G)(2) of the Ohio Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit area are required. Please check the appropriate box below.

<input checked="" type="checkbox"/>	I concur with the proposed postmining land uses identified by the mine operator.
<input type="checkbox"/>	I DO NOT concur with the proposed postmining land uses.

COMMENTS:

  
SIGNATURE OF SURFACE OWNER

08-20-08  
DATE

Please check each (if any) of the following listed wildlife enhancements that you would be interested in having on your property. **PLEASE NOTE:** Checking a box does not require the operator to provide any or all of selected enhancements. This form is a tool to help landowners better understand options that may be available through the coal company.

<input checked="" type="checkbox"/> Tree/Shrub Plantings	<input checked="" type="checkbox"/> Small Depressions
<input checked="" type="checkbox"/> Ponds/Wetlands	<input type="checkbox"/> Perching/Nesting Structures
<input checked="" type="checkbox"/> Brushpiles	Other: _____
<input checked="" type="checkbox"/> Rockpiles	Other: _____

**WAIVER STATEMENT (Optional for Surface Owner):** I, the above named surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from those shown above. (NOTE: I DO NOT WAIVE MY RIGHT TO COMMENT ON ANY PROPOSED POSTMING LAND USE CHANGE AFTER PERMIT ISSUANCE.)

  
SIGNATURE OF SURFACE OWNER

08-20-08  
DATE

Part 2: Section F

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

NEGATIVE PFL DETERMINATION

Applicant's Name **American Energy Corporation - I.B.R. 425-19**

**SEE STATEMENT BELOW**

Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

- ☒ 1. Lands within the application area have not been historically used for cropland.
- ☒ 2. The slope of the land within the application area is greater than eight percent.
- ☒ 3. The total prime farmland soil unit (inside and outside of the application area) is less than three acres.
- ☒ 4. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the application area that have been designated prime farmland by the U.S. Natural Resource Conservation Service.
- ☒ 5. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the NRCS within the application area (see PFL Restoration Plan, item 2 for 1st order survey criteria).

Attached form OH-CPA-65 was completed by Jeff Bettfanger. Natural Resources Conservation Service has found this area to contain prime farmland soil units. As previously stated in R-0425-5, American Energy Corporation, based on deeds executed in 1966 and 1967 which include mining and surface rights, is exempt from the Prime Farmland Regulation under Section 1501-13-4-12 (F)(1) of the Ohio Revised Code.

**Certification of Prime/Nonprime Farmland**

Name of Mine Operator *American Energy Corp.*

Location of Permit Application Area *sect 26, T-5R-4, Washington Twp, Belmont Co.*

Size of Permit Area (Acres) *4 AC*

**Check Appropriate Block:**

1. ☐ I have determined that this permit application DOES NOT contain prime farmland in accordance with the edition of the current county Prime Farmland Map Unit List found in the county Field Office Technical Guide.
2. ☒ I have found that this permit application CONTAINS prime farmland in accordance with the edition of the Prime Farmland Map Units for Ohio and for the current county Prime Farmland Map Unit List, whichever is more current.

A soil map has been attached and prime unit(s) are as follows:

**Soil Map Symbol**

**Map Unit Name**

*LeB*

*Lowell Silt Loam, 3 To 8 Percent slopes*

Signature: *Jeff Bettinger*

*9-16-09*

Jeff Bettinger, Natural Resources Conservation Service  
1119 East Main St., Barnesville, OH 43713 (740) 425-1100 Ext. 112

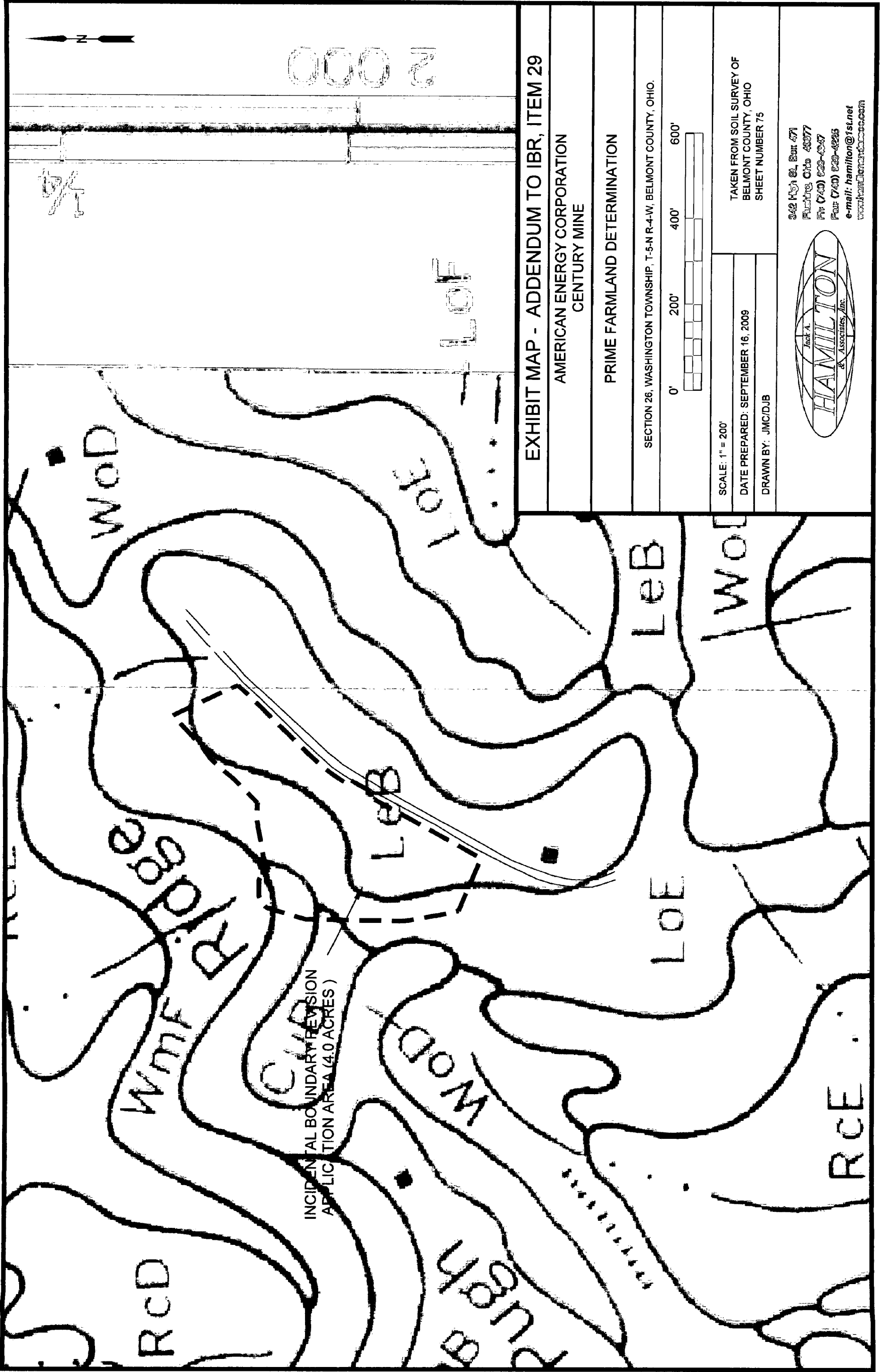

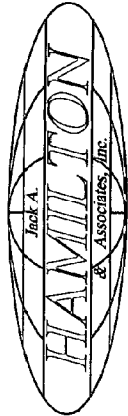


EXHIBIT MAP - ADDENDUM TO IBR, ITEM 29		
AMERICAN ENERGY CORPORATION CENTURY MINE		
PRIME FARMLAND DETERMINATION		
SECTION 26, WASHINGTON TOWNSHIP, T-5-N R-4-W, BELMONT COUNTY, OHIO.		
<div>0'      200'      400'      600'</div> 		
SCALE: 1" = 200'	TAKEN FROM SOIL SURVEY OF BELMONT COUNTY, OHIO SHEET NUMBER 75	
DATE PREPARED: SEPTEMBER 16, 2009		
DRAWN BY: JMC/DJB		
<div><p>342 N. 8th St., Box 471 Piquette, Ohio 45377 Ph: (740) 628-4347 Fax: (740) 628-4263 e-mail: <a href="mailto:hamilton@1st.net">hamilton@1st.net</a> <a href="http://www.hamiltoninc.com">www.hamiltoninc.com</a></p></div>		

IBR- 425-19

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.

Printed Name: James R. Turner, Jr.  
Signature: [Signature]  
Title: Treasurer  
Date Signed: 11/4/08

Sworn before me and subscribed in my presence this 4<sup>th</sup> day of November, 20 08



JULIE WEBB  
Notary Public, State of Ohio  
My Commission Exp. May 14, 2011.

[Signature]  
Notary Public

FOR DIVISION USE ONLY

This application is hereby ☒ issued, ☐ disapproved

☒ The acreage identified in Item 4 of this application is now part of permit D-0425.  
☐ The acreage identified in Item 5 of this application has been deleted from permit \_\_\_\_\_.

Date: 5/27/10 Signed: [Signature]  
Chief, Division of Mineral Resources Mgmt.

\$ 10,000 of performance security received on 5/27/10.

Revised 05/07  
DNR-744-9005

OPERATOR

IBR - 0425 - 19

IBR- 425-19

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.

Printed Name: James R. Turner, Jr.

Signature: [Signature]

Title: Treasurer

Date Signed: 11/4/08

Sworn before me and subscribed in my presence this 4<sup>th</sup> day of November, 20 08



JULIE WEBB  
Notary Public, State of Ohio  
My Commission Exp. May 14, 2011

[Signature]  
Notary Public

FOR DIVISION USE ONLY

This application is hereby ☒ issued, ☐ disapproved

☒ The acreage identified in Item 4 of this application is now part of permit D-0425.

☐ The acreage identified in Item 5 of this application has been deleted from permit \_\_\_\_\_.

Date: 5/27/10

Signed: [Signature]  
Chief, Division of Mineral Resources Mgmt.

\$ 10,000 of performance security received on 5/27/10.

33. Indicate which of the following are proposed to be constructed within this IBR application area, and provide the required engineering designs for each.

- ☐ Sedimentation pond(s) (submit Pond/Impoundment Plan)
- ☐ Water impoundments, including wetlands that impound water (submit Pond/Impoundment Plan)
- ☒ Sumps
- ☒ Other (specify) **Borehole - See Addendum**

34. Are any roads to be constructed, used or maintained within this IBR application area?

Yes ☒ No ☐ If "yes," provide the required description and engineering designs.

35. Are there any conveyor or rail systems to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.



BELMONT COUNTY  
ENGINEERING DEPARTMENT  
PHONE NO. (740) 699 - 2160

COUNTY OF BEMONT  
STATE OF OHIO

DRIVEWAY CULVERT  
APPLICATION FOR PERMIT

To The: Belmont County Engineer  
101 W. Main Street, Courthouse  
St. Clairsville, OH 43950-1260

Date Feb. 14, 2009

Application is hereby made by American Energy Corporation

P.O. Address 43521 Mayhugh Hill Road

Phone No. (740) 926-9152 to have a driveway culvert installed at  
following location along Pugh Ridge Road (C.R. 86), 572 feet northeast of the  
intersection of Oak Ridge Road (T.R. 1544) and Pugh Road.

County Road No. 86 Road Name Pugh Ridge Road

Proposed Culvert to be along N      S      E      W X side of highway  
0.11 miles N X S      E      W      of Twp. Rd./Co. Rd./State Rd.  
T.R. 1544 intersection.

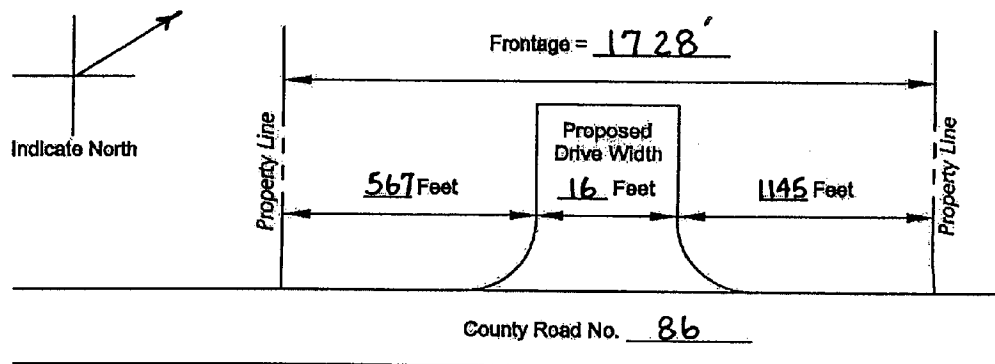
Type of proposed drive: Residential      Field      Commercial X  
Other     

Proposed drive surface: Gravel X Limestone      Asphalt       
Concrete      Other     

Drive width requested: 16 feet

Show in sketch below where proposed driveway culvert will be located in relation to  
property lines.

Edge of drive is recommended to be a minimum of eleven (11) feet from the property  
line. Shorter distances will be accepted on proof of necessity.



AEC 07457

Orig - file  
cc: Hamilton,  
Bob Detling

## DRIVEWAY CULVERT PERMIT

PERMIT NO. \_\_\_\_\_

COUNTY ROAD NO. 86 NAME PUGH RIDGE ROAD

BELMONT COUNTY ENGINEER'S DEPARTMENT

ISSUED TO:

NAME American Energy Corporation

ADDRESS 43521 Mayhugh Hill Rd.  
Beaverville, Ohio 43716

PHONE NO. ( 740 ) 926-9152

TO INSTALL A CULVERT AT THE FOLLOWING LOCATION Vacant property  
on C.H. 86 - 0.11 miles N. of T.H. 1544 -  
20' min. drive width plus taper.

DRIVE PIPE REQUIRED ☒ YES ☐ NO

DIAMETER 12 INCHES

LENGTH- 30 FEET OF SMOOTH BORE PLASTIC

DRIVE SURFACE: CONCRETE ☐ ASPHALT ☐ LIMESTONE ☐

GRAVEL ☒ OTHER ☐

1. The profile of the driveway must slope away from the existing pavement.  
(at a minimum to the ditch line)
2. Paved driveways which extend to the edge of highway cannot set above the edge of pavement. No curbs or headwalls that could create hazards or hamper maintenance operations, such as snow plowing will be allowed.
3. If culvert pipe is required (as determined by Engineer) it is the owners responsibility to furnish the culvert pipe. (minimum diameter is 12 inch; minimum length is 30 foot)
4. Existing drive pipes that have deteriorated or have been damaged causing blockage to the flow of water in the roadside ditch will be required to be repaired or replaced.
5. The driveway shall be located where adequate vision of oncoming traffic is provided.

DATE 2/23/09

Michael D. E. Webb, County Eng.  
FRED F. BENNETT, P.E., P.S.  
BELMONT COUNTY ENGINEER

AEC 07458

## ATTACHMENT 13

## DIAMOND DRILL HOLE: CLC-2002-20

Field Engineer: Kim Cecil  
 Surface Elevation: 1,325.00  
 Drill Hole Coordinates (State Plane 1927 NA Datum)  
 Northing: 688450  
 Easting: 2426390  
 Drilling Company: Kerogen Resources

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
20.00	0.00	20.00	Casing				0.00
0.95	20.00	20.95	Shale, gy	Y	cm, em		0.00
1.00	20.95	21.95	Shale, gy, ls nods		ak, cm, em		0.00
1.05	21.95	23.00	Limestone, shaley, nodular	Y	ak, cs, es	y	1.05
5.70	23.00	28.70	Claystone, dk gy, ls nods	Y	ak, cv, ev		0.00
1.00	28.70	29.70	Core loss				0.00
1.65	29.70	31.35	Claystone, red/ gy		cv, ev		0.00
1.30	31.35	32.65	Claystone, gy		cv, ev		0.00
2.15	32.65	34.80	Sandstone, gy, crossbeds	Y	cs, es	y	2.15
3.85	34.80	38.65	Shale, gy, interbedded ss	Y	cm, em		0.00
1.60	38.65	40.25	Shale, gy, sandy	Y	cm, em		0.00
2.15	40.25	42.40	Claystone, gy		cv, ev		0.00
7.20	42.40	49.60	Claystone, red		cv, ev		0.00
7.95	49.60	57.55	Shale, gy, sandy, ls nods	Y	ak, cm, em		0.00
4.70	57.55	62.25	Shale, gy, sandy	Y	cm, em		0.00
3.30	62.25	65.55	Sandstone, gy, sh stks		cs, es	y	3.30
1.70	65.55	67.25	Claystone, gy		cv, ev		0.00
4.25	67.25	71.50	Sandstone, gy, massive	Y	cs, es	y	4.25
1.30	71.50	72.80	Shale, gy, ls nods		ak, cm, em		0.00
0.80	72.80	73.60	Shale, gy, sandy		cm, em		0.00
7.20	73.60	80.80	Shale, gy, ls nods		ak, cm, em		0.00
0.35	80.80	81.15	Shale, red/ gy		cm, em		0.00
1.55	81.15	82.70	Claystone, dk gy		cv, ev		0.00
0.40	82.70	83.10	Claystone, dk gy, ls nods		ak, cv, ev		0.00
2.05	83.10	85.15	Claystone, dk gy		cv, ev		0.00
0.25	85.15	85.40	Claystone, dk gy, ls nods		ak, cv, ev		0.00
1.65	85.40	87.05	Shale, dk gy		cm, em		0.00
5.85	87.05	92.90	Shale, gy, sandy, ls nods		ak, cm, em		0.00
0.85	92.90	93.75	Shale, dk gy, ls nods		ak, cm, em		0.00
5.90	93.75	99.65	Shale, gy, sandy, ls nods		ak, cm, em		0.00
3.40	99.65	103.05	Shale, gy, ls nods		ak, cm, em		0.00
0.40	103.05	103.45	Claystone, red/ gy		cv, ev		0.00
3.25	103.45	106.70	Claystone, dk gy, ls nods		ak, cv, ev		0.00
1.55	106.70	108.25	Claystone, dk gy		cv, ev		0.00
1.00	108.25	109.25	Shale, gy, sandy		cm, em		0.00
6.70	109.25	115.95	Claystone, dk gy, ls nods		ak, cv		0.00
4.60	115.95	120.55	Shale, gy, sandy, ls nods		ak, cm, em		0.00
3.45	120.55	124.00	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
7.10	124.00	131.10	Claystone, gy, ls nods		ak, cv, ev		0.00
1.15	131.10	132.25	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
2.90	132.25	135.15	Sandstone, gy, crossbeds		cs, es	y	2.90
3.10	135.15	138.25	Shale, gy, sandy		cm, em		0.00
3.00	138.25	141.25	Shale, gy, ls nods		ak, cm, em		0.00
1.90	141.25	143.15	Shale, red/ gy		cm, em		0.00
1.00	143.15	144.15	Claystone, gy		cv, ev		0.00
3.90	144.15	148.05	Claystone, red		cv, ev		0.00
1.65	148.05	149.70	Claystone, red/ gy		cv, ev		0.00
0.95	149.70	150.65	Claystone, gy, ls nods		ak, cv, ev		0.00
2.65	150.65	153.30	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
0.40	153.30	153.70	Shale, gy, sandy		cm, em		0.00
0.45	153.70	154.15	Claystone, red/ gy		cv, ev		0.00
1.20	154.15	155.35	Shale, gy, sandy		cm, em		0.00
1.70	155.35	157.05	Claystone, red/ gy		cv, ev		0.00
0.35	157.05	157.40	Claystone, gy		cv, ev		0.00
0.25	157.40	157.65	Claystone, red		cv, ev		0.00
0.80	157.65	158.45	Claystone, red/ gy		cv, ev		0.00

## ATTACHMENT 13

## DIAMOND DRILL HOLE: CLC-2002-20

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
1.10	158.45	159.55	Shale, gy		cm, em		0.00
3.60	159.55	163.15	Shale, gy, sandy		cm, em		0.00
0.30	163.15	163.45	Shale, dk gy		cm, em		0.00
12.10	163.45	175.55	Shale, gy, sandy		cm, em		0.00
2.05	175.55	177.60	Shale, red		cm, em		0.00
1.35	177.60	178.95	Shale, dk gy		cm, em		0.00
4.15	178.95	183.10	Shale, dk gy, ls nods		ak, cm, em		0.00
0.40	183.10	183.50	Limestone, shaley, nodular		ak, cs, es	y	0.40
0.95	183.50	184.45	Shale, gy, ls nods		ak, cm, em		0.00
0.45	184.45	184.90	Limestone, shaley, nodular		ak, cs, es	y	0.45
4.50	184.90	189.40	Shale, gy, ls nods		ak, cm, em		0.00
0.40	189.40	189.80	Shale, red/ gy		cm, em		0.00
1.75	189.80	191.55	Shale, grn, ls nods		ak, cm, em		0.00
0.40	191.55	191.95	Shale, gy, ls nods		ak, cm, em		0.00
0.55	191.95	192.50	Limestone, shaley, nodular		ak, cs, es	y	0.55
0.45	192.50	192.95	Shale, gy, ls nods		ak, cm, em		0.00
0.30	192.95	193.25	Limestone, shaley, nodular		ak, cs, es	y	0.30
1.70	193.25	194.95	Shale, gy, ls nods		ak, cm, em		0.00
9.20	194.95	204.15	Claystone, red		cv, ev		0.00
1.00	204.15	205.15	Claystone, red/ gy		cv, ev		0.00
3.65	205.15	208.80	Shale, gy, ls nods		ak, cm, em		0.00
0.80	208.80	209.60	Claystone, red/ gy		cv, ev		0.00
2.20	209.60	211.80	Claystone, gy, ls nods		ak, cv, ev		0.00
0.80	211.80	212.60	Shale, gy, sandy, ls nods		ak, cm, em		0.00
3.50	212.60	216.10	Shale, gy, ls nods		ak, cm, em		0.00
3.90	216.10	220.00	Claystone, red/ gy		cv, ev		0.00
2.20	220.00	222.20	Claystone, red		cv, ev		0.00
5.75	222.20	227.95	Shale, red/ gy		cm, em		0.00
0.65	227.95	228.60	Shale, gy		cm, em		0.00
0.75	228.60	229.35	Shale, red/ gy		cm, em		0.00
0.40	229.35	229.75	Shale, gy		cm, em		0.00
1.50	229.75	231.25	Shale, red/ gy		cm, em		0.00
0.70	231.25	231.95	Claystone, gy		cv, ev		0.00
1.15	231.95	233.10	Shale, dk gy, ls nods		ak, cm, em		0.00
1.40	233.10	234.50	Limestone, shaley, nodular		ak, cs, es	y	1.40
0.95	234.50	235.45	Shale, gy, sandy		cm, em		0.00
2.75	235.45	238.20	Shale, gy, sandy, ls nods		ak, cm, em		0.00
0.65	238.20	238.85	Claystone, red/ gy, ls nods		ak, cv, ev		0.00
2.05	238.85	240.90	Shale, gy, ls nods		ak, cm, em		0.00
0.45	240.90	241.35	Shale, dk gy		cm, em		0.00
0.85	241.35	242.20	Shale, red/ gy		cm, em		0.00
3.05	242.20	245.25	Shale, gy, ls nods		ak, cm, em		0.00
7.40	245.25	252.65	Shale, gy, sandy, ls nods		ak, cm, em		0.00
2.05	252.65	254.70	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
8.20	254.70	262.90	Sandstone, gy, crossbeds		cs, es	y	8.20
1.00	262.90	263.90	Sandstone, gy, massive		cs, es	y	1.00
4.20	263.90	268.10	Sandstone, gy, crossbeds		cs, es	y	4.20
0.55	268.10	268.65	Shale, dk gy		cm, em		0.00
0.75	268.65	269.40	Shale, gy, sandy		cm, em		0.00
0.15	269.40	269.55	Shale, dk gy		cm, em		0.00
0.85	269.55	270.40	Limestone, shaley, nodular		ak, cs, es	y	0.85
12.55	270.40	282.95	Shale, dk gy, ls nods		ak, cm, em		0.00
8.05	282.95	291.00	Shale, dk gy		cm, em		0.00
0.60	291.00	291.60	Shale, blk		ac, cm, em		0.00
0.03	291.60	291.63	Pyrite		ac, cs, es		0.00
0.91	291.63	292.54	Coal, bone stks, WASHINGTON No. 12		ac, cv, ev		0.00
0.74	292.54	293.28	Coal, sh stks		ac, cv, ev		0.00
0.83	293.28	294.11	Coal, bone stks		ac, cv, ev		0.00
0.75	294.11	294.86	Coal, sh stks		ac, cv, ev		0.00
0.16	294.86	295.02	Shale, dk gy		cm, em		0.00
0.49	295.02	295.51	Shale, blk, coal stks		ac, cm, em		0.00
1.00	295.51	296.51	Coal, bone stks		ac, cv, ev		0.00
0.09	296.51	296.60	Shale, blk		ac, cm, em		0.00
1.70	296.60	298.30	Claystone, dk gy		cv, ev		0.00
11.05	298.30	309.35	Shale, dk gy, ls nods		ak, cm, em		0.00
6.35	309.35	315.70	Claystone, dk gy, ls nods		ak, cv, ev		0.00
3.05	315.70	318.75	Shale, gy, sandy, ls nods		ak, cm, em		0.00
2.35	318.75	321.10	Shale, dk gy, ls nods		ak, cm, em		0.00

## ATTACHMENT 13

## DIAMOND DRILL HOLE: CLC-2002-20

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
0.85	321.10	321.95	Shale, gy, sandy, ls nods		ak, cm, em		0.00
2.50	321.95	324.45	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
2.10	324.45	326.55	Shale, gy, ls nods		ak, cm, em		0.00
4.95	326.55	331.50	Shale, gy, sandy, ls nods		ak, cm, em		0.00
4.70	331.50	336.20	Claystone, dk gy, ls nods		ak, cv, ev		0.00
5.45	336.20	341.65	Shale, gy, ls nods		ak, cm, em		0.00
0.65	341.65	342.30	Shale, gy		cm, em		0.00
0.29	342.30	342.59	Shale, blk, coal stks		ac, cm, em		0.00
0.19	342.59	342.78	Coal, bone stks, WAYNESBURG "A"		ac, cv, ev		0.00
0.69	342.78	343.47	Bone, coal stks		ac, cv, ev		0.00
0.02	343.47	343.49	Shale, dk gy		cm, em		0.00
0.96	343.49	344.45	Bone, coal stks		ac, cv, ev		0.00
0.47	344.45	344.92	Shale, blk, coal stks		ac, cm, em		0.00
1.84	344.92	346.76	Coal, sh layers		ac, cv, ev		0.00
0.02	346.76	346.78	Claystone, dk gy		cv, ev		0.00
1.16	346.78	347.94	Bone, coal stks		ac, cv, ev		0.00
0.06	347.94	348.00	Shale, blk		ac, cm, em		0.00
0.42	348.00	348.42	Bone, coal layers		ac, cv, ev		0.00
0.24	348.42	348.66	Shale, blk, coal stks		ac, cm, em		0.00
0.07	348.66	348.73	Shale, blk		ac, cm, em		0.00
1.02	348.73	349.75	Limestone, shaley, nodular		ak, cs, es	y	1.02
0.20	349.75	349.95	Shale, blk		ac, cm, em		0.00
0.05	349.95	350.00	Limestone		ak, cs, es	y	0.05
0.45	350.00	350.45	Shale, blk		ac, cm, em		0.00
0.80	350.45	351.25	Limestone, shaley, nodular		ak, cs, es	y	0.80
0.70	351.25	351.95	Claystone, dk gy, ls nods		ak, cv, ev		0.00
1.05	351.95	353.00	Limestone, shaley, nodular		ak, cs, es	y	1.05
1.85	353.00	354.85	Shale, dk gy, ls nods		ak, cm, em		0.00
3.20	354.85	358.05	Limestone, shaley, nodular		ak, cs, es	y	3.20
1.90	358.05	359.95	Shale, gy, ls nods		ak, cm, em		0.00
2.30	359.95	362.25	Shale, gy, sandy, ls nods		ak, cm, em		0.00
1.20	362.25	363.45	Sandstone, gy, sh stks		cs, es	y	1.20
2.90	363.45	366.35	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
1.70	366.35	368.05	Shale, gy, ls nods		ak, cm, em		0.00
0.35	368.05	368.40	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
5.00	368.40	373.40	Shale, gy, ls nods		ak, cm, em		0.00
0.70	373.40	374.10	Claystone, dk gy		cv, ev		0.00
0.25	374.10	374.35	Limestone, shaley, nodular		ak, cs, es	y	0.25
3.75	374.35	378.10	Shale, gy, ls nods		ak, cm, em		0.00
0.75	378.10	378.85	Shale, dk gy, ls nods		ak, cm, em		0.00
1.95	378.85	380.80	Claystone, dk gy		cv, ev		0.00
0.70	380.80	381.50	Claystone, dk gy, ls nods		ak, cv, ev		0.00
1.20	381.50	382.70	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
2.85	382.70	385.55	Shale, dk gy, ls nods		ak, cm, em		0.00
0.43	385.55	385.98	Shale, dk gy		cm, em		0.00
0.27	385.98	386.25	Shale, blk		ac, cm, em		0.00
0.13	386.25	386.38	Shale, blk, coal stks		ac, cm, em		0.00
0.43	386.38	386.81	Coal, bone stks, WAYNESBURG No.11		ac, cv, ev		0.00
0.79	386.81	387.60	Bone, coal stks		ac, cv, ev		0.00
0.68	387.60	388.28	Coal, pyrite		ac, cv, ev		0.00
0.37	388.28	388.65	Shale, blk		ac, cm, em		0.00
1.15	388.65	389.80	Shale, gy, ls nods		ak, cm, em		0.00
6.60	389.80	396.40	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
6.10	396.40	402.50	Shale, dk gy, ss stks		cm, em		0.00
1.20	402.50	403.70	Shale, dk gy, interbedded ss		cm, em		0.00
0.54	403.70	404.24	Claystone, dk gy		cv, ev		0.00
0.41	404.24	404.65	Coal, sh stks, LITTLE WAYNESBURG		ac, cv, ev		0.00
2.55	404.65	407.20	Shale, dk gy, ls nods		ak, cm, em		0.00
3.05	407.20	410.25	Limestone, shaley, nodular		ak, cs, es	y	3.05
2.10	410.25	412.35	Claystone, dk gy		cv, ev		0.00
1.30	412.35	413.85	Shale, dk gy, ls nods		ak, cm, em		0.00
0.70	413.85	414.35	Limestone, shaley, nodular		ak, cs, es	y	0.70
1.55	414.35	415.90	Shale, dk gy, ls nods		ak, cm, em		0.00
0.30	415.90	416.20	Limestone, massive		ak, cs, es	y	0.30
0.60	416.20	416.80	Limestone, mosaic		ak, cs, es	y	0.60
0.70	416.80	417.50	Limestone, massive		ak, cs, es	y	0.70
0.90	417.50	418.40	Shale, dk gy, ls nods		ak, cm, em		0.00
0.40	418.40	418.80	Limestone, massive		ak, cs, es	y	0.40

## ATTACHMENT 13

## DIAMOND DRILL HOLE: CLC-2002-20

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
0.30	418.80	419.10	Limestone, mosaic		ak, cs, es	y	0.30
0.65	419.10	419.75	Limestone, shaley, nodular		ak, cs, es	y	0.65
8.85	419.75	428.60	Shale, dk gy, ls nods		ak, cm, em		0.00
1.50	428.60	430.10	Limestone, shaley, layered		ak, cs, es	y	1.50
0.25	430.10	430.35	Claystone, gm		cv, ev		0.00
0.20	430.35	430.55	Claystone, dk gy, ls nods		ak, cv, ev		0.00
2.60	430.55	433.15	Shale, dk gy, ls nods		ak, cm, em		0.00
4.65	433.15	437.80	Shale, gy, sandy, ls nods		ak, cm, em		0.00
3.85	437.80	441.45	Shale, gy, ss slks, ls nods		ak, cm, em		0.00
0.90	441.45	442.35	Shale, dk gy, ls nods		ak, cm, em		0.00
0.55	442.35	442.90	Shale, dk gy		cm, em		0.00
1.00	442.90	443.90	Shale, red		cm, em		0.00
0.35	443.90	444.25	Shale, dk gy		cm, em		0.00
0.10	444.25	444.35	Shale, red		cm, em		0.00
0.15	444.35	444.50	Shale, dk gy		cm, em		0.00
0.25	444.50	444.75	Limestone, shaley, massive		ak, cs, es	y	0.25
0.70	444.75	445.45	Shale, dk gy, ls nods		ak, cm, em		0.00
1.25	445.45	446.70	Limestone, shaley, nodular		ak, cs, es	y	1.25
5.40	446.70	452.10	Shale, dk gy, ls nods		ak, cm, em		0.00
0.60	452.10	452.70	Claystone, red, ls nods		ak, cv, ev		0.00
4.35	452.70	457.05	Shale, dk gy, ls nods		ak, cm, em		0.00
0.60	457.05	457.65	Limestone, massive		ak, cs, es	y	0.60
0.90	457.65	458.55	Shale, dk gy, ls nods		ak, cm, em		0.00
1.45	458.55	460.00	Limestone, massive		ak, cs, es	y	1.45
1.35	460.00	461.35	Shale, dk gy, ls nods		ak, cm, em		0.00
1.75	461.35	463.10	Limestone, shaley, nodular		ak, cs, es	y	1.75
2.00	463.10	465.10	Shale, gy, ls nods		ak, cm, em		0.00
1.30	465.10	466.40	Limestone, shaley, layered		ak, cs, es	y	1.30
1.00	466.40	467.40	Shale, gy, ls nods		ak, cm, em		0.00
1.00	467.40	468.40	Limestone, shaley, nodular		ak, cs, es	y	1.00
0.55	468.40	468.95	Limestone, massive		ak, cs, es	y	0.55
0.35	468.95	469.30	Claystone, gm, ls nods		ak, cv, ev		0.00
1.05	469.30	470.35	Limestone, massive		ak, cs, es	y	1.05
1.80	470.35	472.15	Shale, dk gy, ls nods		ak, cm, em		0.00
0.95	472.15	473.10	Limestone, shaley, nodular		ak, cs, es	y	0.95
5.20	473.10	478.30	Shale, gy, ls nods		ak, cm, em		0.00
0.85	478.30	479.15	Claystone, gm, ls nods		ak, cv, ev		0.00
1.05	479.15	480.20	Shale, gy, ss slks		cm, em		0.00
4.30	480.20	484.50	Shale, dk gy, ls nods		ak, cm, em		0.00
2.20	484.50	486.70	Limestone, massive		ak, cs, es	y	2.20
1.40	486.70	488.10	Shale, gm, ls nods		ak, cm, em		0.00
1.65	488.10	489.75	Shale, dk gy, ls nods		ak, cm, em		0.00
0.60	489.75	490.35	Limestone, shaley, nodular		ak, cs, es	y	0.60
3.20	490.35	493.55	Shale, gy, ls nods		ak, cm, em		0.00
2.05	493.55	495.60	Limestone, shaley, nodular		ak, cs, es	y	2.05
3.60	495.60	499.20	Shale, dk gy, ls nods		ak, cm, em		0.00
2.65	499.20	501.85	Limestone, massive		ak, cs, es	y	2.65
1.45	501.85	503.30	Shale, dk gy, ls nods		ak, cm, em		0.00
0.50	503.30	503.80	Limestone, massive		ak, cs, es	y	0.50
3.15	503.80	506.95	Shale, dk gy, ls nods		ak, cm, em		0.00
3.50	506.95	510.45	Limestone, massive		ak, cs, es	y	3.50
0.50	510.45	510.95	Shale, dk gy, ls nods		ak, cm, em		0.00
0.55	510.95	511.50	Limestone, massive		ak, cs, es	y	0.55
0.70	511.50	512.20	Shale, dk gy, ls nods		ak, cm, em		0.00
0.75	512.20	512.95	Limestone, shaley, nodular		ak, cs, es	y	0.75
2.95	512.95	515.90	Shale, dk gy, ls nods		ak, cm, em		0.00
6.00	515.90	521.90	Limestone, nodular		ak, cs, es	y	6.00
0.60	521.90	522.50	Shale, dk gy		cm, em		0.00
1.40	522.50	523.90	Limestone, layered, cly slks		ak, cs, es	y	1.40
1.25	523.90	525.15	Limestone, shaley, nodular		ak, cs, es	y	1.25
1.10	525.15	526.25	Shale, gy, ls nods		ak, cm, em		0.00
1.40	526.25	527.65	Limestone, massive		ak, cs, es	y	1.40
0.65	527.65	528.30	Shale, gm, ls nods		ak, cm, em		0.00
0.25	528.30	528.55	Shale, dk gy		cm, em		0.00
0.30	528.55	528.85	Shale, gm		cm, em		0.00
1.25	528.85	530.10	Limestone, shaley, nodular		ak, cs, es	y	1.25
3.60	530.10	533.70	Shale, gy, ls nods		ak, cm, em		0.00
4.85	533.70	538.55	Limestone, massive		ak, cs, es	y	4.85

## ATTACHMENT 13

## DIAMOND DRILL HOLE: CLC-2002-20

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
3.95	538.55	542.50	Limestone, shaley, nodular		ak, cs, es	y	3.95
1.00	542.50	543.50	Shale, gm, ls nods		ak, cm, em		0.00
2.45	543.50	545.95	Shale, dk gy, ls nods		ak, cm, em		0.00
0.35	545.95	546.30	Limestone, shaley, nodular		ak, cs, es	y	0.35
0.35	546.30	546.65	Shale, dk gy, ls nods		ak, cm, em		0.00
1.00	546.65	547.65	Shale, dk gy		cm, em		0.00
0.45	547.65	548.10	Shale, blk, coal stks		ac, cm, em		0.00
0.68	548.10	548.78	Coal, bone stks, SEWICKLEY No. 9		ac, cv, ev		0.00
0.62	548.78	549.40	Bone, coal stks		ac, cv, ev		0.00
0.25	549.40	549.65	Shale, blk, coal stks		ac, cm, em		0.00
0.40	549.65	550.05	Shale, dk gy		cm, em		0.00
1.95	550.05	552.00	Shale, dk gy, ls nods		ak, cm, em		0.00
3.65	552.00	555.65	Shale, gy, ls nods		ak, cm, em		0.00
1.60	555.65	557.25	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
2.70	557.25	559.95	Sandstone, gy, sh stks		cs, es	y	2.70
1.15	559.95	561.10	Shale, gy, sandy		cm, em		0.00
5.10	561.10	566.20	Shale, gy, ss stks		cm, em		0.00
5.35	566.20	571.55	Sandstone, gy, crossbeds		cs, es	y	5.35
7.95	571.55	579.50	Sandstone, gy, sh stks		cs, es	y	7.95
2.55	579.50	582.05	Sandstone, gy, crossbeds, chummed		cs, es	y	2.55
0.90	582.05	582.95	Claystone, dk gy		cv, ev		0.00
0.10	582.95	583.05	Shale, blk, coal stks		ac, cm, em		0.00
0.18	583.05	583.23	Coal, bone stks, FISHPOT		ac, cv, ev		0.00
0.07	583.23	583.30	Shale, blk		ac, cm, em		0.00
0.38	583.30	583.68	Coal, bone stks		ac, cv, ev		0.00
0.26	583.68	583.94	Coal, sh layers		ac, cv, ev		0.00
0.19	583.94	584.13	Coal, bone stks		ac, cv, ev		0.00
0.28	584.13	584.41	Shale, blk		ac, cm, em		0.00
0.06	584.41	584.47	Shale, blk, coal stks		ac, cm, em		0.00
0.55	584.47	585.02	Coal, bone stks		ac, cv, ev		0.00
0.58	585.02	585.60	Claystone, dk gy		cv, ev		0.00
1.45	585.60	587.05	Limestone, massive		ak, cs, es	y	1.45
1.10	587.05	588.15	Limestone, cly stks		ak, cs, es	y	1.10
0.45	588.15	588.60	Shale, dk gy, ls nods		ak, cm, em		0.00
0.60	588.60	589.20	Limestone, massive		ak, cs, es	y	0.60
0.55	589.20	589.75	Limestone, mosaic		ak, cs, es	y	0.55
0.85	589.75	590.60	Limestone, massive		ak, cs, es	y	0.85
0.70	590.60	591.30	Limestone, layered		ak, cs, es	y	0.70
0.15	591.30	591.45	Shale, dk gy, ls nods		ak, cm, em		0.00
1.00	591.45	592.45	Limestone, nodular		ak, cs, es	y	1.00
1.25	592.45	593.70	Limestone, massive		ak, cs, es	y	1.25
0.50	593.70	594.20	Shale, dk gy, ls nods		ak, cm, em		0.00
1.00	594.20	595.20	Limestone, massive		ak, cs, es	y	1.00
3.30	595.20	598.50	Limestone, shaley, nodular		ak, cs, es	y	3.30
2.10	598.50	600.60	Limestone, massive		ak, cs, es	y	2.10
0.10	600.60	600.70	Shale, dk gy, ls nods		ak, cm, em		0.00
2.15	600.70	602.85	Limestone, shaley, nodular		ak, cs, es	y	2.15
3.95	602.85	606.80	Claystone, gm, ls nods		ak, cv, ev		0.00
5.85	606.80	612.65	Shale, gy, ls nods		ak, cm, em		0.00
2.40	612.65	615.05	Shale, dk gy, ls nods		ak, cm, em		0.00
3.05	615.05	618.10	Limestone, massive		ak, cs, es	y	3.05
0.25	618.10	618.35	Shale, dk gy, ls nods		ak, cm, em		0.00
0.35	618.35	618.70	Limestone, massive		ak, cs, es	y	0.35
0.50	618.70	619.20	Shale, dk gy, ls nods		ak, cm, em		0.00
2.35	619.20	621.55	Limestone, shaley, nodular		ak, cs, es	y	2.35
0.50	621.55	622.05	Claystone, gm, ls nods		ak, cv, ev		0.00
1.00	622.05	623.05	Claystone, gy, ls nods		ak, cv, ev		0.00
1.65	623.05	624.70	Claystone, gm, ls nods		ak, cv, ev		0.00
0.25	624.70	624.95	Shale, blk, coal stks		ac, cm, em		0.00
0.15	624.95	625.10	Shale, blk		ac, cm, em		0.00
1.50	625.10	626.60	Shale, gy, sandy, ls nods		ak, cm, em		0.00
1.00	626.60	627.60	Shale, dk gy, ls nods		ak, cm, em		0.00
0.85	627.60	628.45	Limestone, shaley, nodular		ak, cs, es	y	0.85
0.85	628.45	629.30	Claystone, dk gy, ls nods		ak, cv, ev		0.00
0.35	629.30	629.65	Limestone, shaley, nodular		ak, cs, es	y	0.35
0.35	629.65	630.00	Shale, dk gy, ls nods		ak, cm, em		0.00
6.05	630.00	636.05	Limestone, massive		ak, cs, es	y	6.05
1.25	636.05	637.30	Shale, dk gy, ls nods		ak, cm, em		0.00

**ATTACHMENT 13**  
**DIAMOND DRILL HOLE: CLC-2002-20**

Thickness (ft.)	Depth From (ft.)	To (ft.)	Strata	Water Bearing	Physical Properties	HR	Thickness of Hard Rock (ft.)
0.45	637.30	637.75	Limestone, massive		ak, cs, es	y	0.45
3.30	637.75	641.05	Claystone, dk gy, ls nods		ak, cv, ev		0.00
0.45	641.05	641.50	Limestone, shaley, nodular		ak, cs, es	y	0.45
4.25	641.50	645.75	Claystone, gy, ls nods		ak, cv, ev		0.00
1.35	645.75	647.10	Claystone, blk/ tan, layered		ac, cv, ev		0.00
0.10	647.10	647.20	Shale, blk		ac, cm, em		0.00
0.25	647.20	647.45	Claystone, dk gy		cv, ev		0.00
0.33	647.45	647.78	Coal, pyrite, PITTSBURGH No. 8 ROOF COAL		ac, cv, ev		0.00
0.65	647.78	648.43	Coal, bone stks		ac, cv, ev		0.00
0.02	648.43	648.45	Shale, dk gy		cm, em		0.00
0.14	648.45	648.59	Coal, bone stks		ac, cv, ev		0.00
0.73	648.59	649.32	Claystone, gy		cv, ev		0.00
0.15	649.32	649.47	Shale, blk		ac, cm, em		0.00
0.45	649.47	649.92	Bone, coal layers, PITTSBURGH No. 8		ac, cv, ev		0.00
0.59	649.92	650.51	Coal, bone stks		ac, cv, ev		0.00
0.96	650.51	651.47	Coal		ac, cv, ev		0.00
0.05	651.47	651.52	Shale, blk		ac, cm, em		0.00
0.41	651.52	651.93	Coal		ac, cv, ev		0.00
0.15	651.93	652.08	Bone		ac, cv, ev		0.00
1.49	652.08	653.57	Coal		ac, cv, ev		0.00
0.03	653.57	653.60	Shale, blk		ac, cm, em		0.00
1.22	653.60	654.82	Coal		ac, cv, ev		0.00
0.05	654.82	654.87	Shale, blk		ac, cm, em		0.00
1.95	654.87	656.82	Claystone, dk gy		cv, ev		0.00
4.20	656.82	661.02	Claystone, dk gy, ls nods		ak, cv, ev		0.00
2.80	661.02	663.82	Shale, gy, sandy, ls nods		ak, cm, em		0.00
0.85	663.82	664.67	Shale, gy, ss stks, ls nods		ak, cm, em		0.00
2.40	664.67	667.07	Shale, gy, sandy, ls nods		ak, cm, em		0.00
1.30	667.07	668.37	Shale, gy, ss stks		cm, em		0.00
Total Depth			668.37				138.67

Acid Producing: ac  
 Alkaline Producing: ak  
 Compactible: c (v-very, m-moderate, s-slight)  
 Erodible: e (v-very, m-moderate, s-slight)

Total Thickness of Hard Rock Overlying Mining Unit 138.67

Thickness and Percentage of Hard and Soft Rock Overlying Mining Unit 24%

	Thickness (ft.)	Percent (%)
Hard Rock:	138.67	24%
Soft Rock:	432.88	76%
	571.55	

**ACID/BASE ACCOUNTING for Mining Pittsburgh No. 8 Coalbed**

Stratum	Neutralization Potential, tons/1000 tons as CaCO <sub>3</sub>	Total Sulphur %	Pyritic Sulphur %	Potential Acidity, tons /1000 tons as CaCO <sub>3</sub> (Total Sul.)	CaCO <sub>3</sub> Deficiency, tons/1000 tons as CaCO <sub>3</sub> (Total Sul.)
Roof, 10 ft.	174.24	2.31	1.77	72.37	-101.75
Coal Bottom, 10 ft.	106.70	2.65	2.52	82.80	-24.00



# Performance Security Data Input Section

Company: American Energy Corporation

App #/Permit Number: D-425

IMU#: 03/24/10

## Permit Acreages

Total Area for this Estimate: 327.6 (acres)  
 Slurry/Reuse Area: 154.4 (acres)  
 Prep Plant Area: (acres)  
 Permanent Primary Roads Area: (acres)  
 Affected Area Reveg. Not Required (Pre-Phase II): (acres)  
 Area Proposed Not To Be Affected: (acres)  
 Maximum Area of Prime Farmland Proposed to be affected within the MOA: (acres)

## Maximum Pit Dimensions

Only enter values for pits that will be open and part of this estimate.

Pit Number	Max length (ft)	Max width (ft)	Type*	WT (ft)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Max unreclaimed length of augured highwall (Feet):

Channel Construction/Rock Required

Total of rock larger than D50 of 18-inches: 0 (CYD)  
 Total of rock between D50 of 18 to 6-inches: 3247 (CYD)  
 Total of rock smaller than D50 of 6-inches: 15272 (CYD)  
 Total length of Grass Lined Channels & Stone Centered Waterways: 11505 (Feet)

## Resolving Parameters

Average depth of resolving material needed: 6 (inches)  
 Enter area of resolving with close on site materials (Condition 1): 147.7 (acres)  
 ("Close" is less than 500 ft)  
 Enter area of resolving with distant on site materials (Condition 2): 0.3 (acres)  
 (over 500 ft from area)  
 Average depth of PRIME FARMLAND resolving material needed: 48 (inches)  
 Enter area of resolving for PRIME FARMLAND (Condition 1): 7.88 (acres)  
 Enter area of resolving for PRIME FARMLAND (Condition 2): (acres)

## Impoundments/Wetlands

Total number of pond impoundments: 25 (#)  
 (Permanent and temporary from "POND Sheet")  
 Total of pond impoundment volumes: 83,871 (acre-ft)  
 (Sediment Storage Volume from Pond/Impoundment Plan)  
 Area of wetlands within the permit limits to be affected: (acres)

## Utilities

Length of any active utility line (gas, water, etc) to be affected: 7320 (feet)  
 Number of active oil or gas wells in mining area: (ft)  
 (Mining area is area in coal removal and auger or highwall miner area)

## Phase Releases/Maintenance

IF Phase I PS Release enter a 1 here: (entire permit only)  
 IF PHASE II PS Release enter a 1 here: (entire permit only)  
 Number of acres with Phase III Release (From "Phase III Releases" Sheet): 0

## Substantial Known Events

Substantial Known Event #1: \$8,750 Lump Sum direct cost to mitigate  
 Supply Detailed Estimate  
 Substantial Known Event #2: Lump Sum direct cost to mitigate  
 Supply Detailed Estimate  
 Substantial Known Event #3: Lump Sum direct cost to mitigate  
 Supply Detailed Estimate

## Prep Plant Additional Estimates

Over riding Hazardous Waste Remediation value: Estimate \$  
 If none present, enter \$1  
 Over riding Asbestos Remediation value: Estimate \$  
 If none present, enter \$1  
 Over riding Lead Remediation value: Estimate \$  
 If none present, enter \$1  
 Nearest EPA approved Haz. Waste receiving facility: miles

To be filled out by ODN/DMRM only:

Estimate Amount: \$9,536,000

Approved By Initials: AB

Date: 3/24/2010

OPERATOR

Spreadsheet Revised 5/3/2008

1 BR - 0425 - 19

[illegible]



[illegible]

[illegible]

**Labels Agreement:** \_\_\_\_\_

[illegible]

**Total Amount for this Estimate: \$9,536,000**

Company: American Energy Corporation	
App #/Permit Number: D-425	
IMU#:	
Date: 03/24/10	

	Quantity	Units	Unit Cost	Line Item Amounts	
Mobilization/Demob. (Lesser of 5% or \$40K)				= \$40,000	
Clearing and Grubbing / Final Grading	49.1	Acre	x \$2,270.00	= \$111,548	Phase II Dependent
Impoundment Dewatering	27,333,000	Gallons	x \$0.0050	= \$136,665	Phase II Dependent
Water Treatment (30% of Dewatering)	8,199,900	Gallons	x \$0.0060	= \$49,199	Drops out at Phase 1
Pit Earthwork	0	CYD	x \$1.50	= \$0	From "Prep Plant Data" Sheet
Net Demolition Cost				= \$1,964,003	
Misc. Earthwork/ Haulroads	15,100	CYD	x \$1.50	= \$22,650	From "Earthwork & Refuse" Sheet
Slurry Pond Reclamation				= \$3,147,114	
Small Pond Embankments and Pond Areas	25	Each	x \$5,000.00	= \$125,000	
Rock larger than Type B	0	Tons	x \$32.50	= \$0	From offsite only, Drops out at Phase II
Rock between Type B to Type D	2,555	Tons	x \$32.50	= \$83,027	From offsite only, Drops out at Phase II
Smaller than Type D RCP	22,908	Tons	x \$23.00	= \$526,884	Drops out at Phase II
Grass Lined Channels/Stone Centered Waterways	11505	LF	x \$5.00	= \$57,525	Drops out at Phase II
Standard Revegetation	173.2	Acre	x \$1,456.00	= \$252,179	At Phase II Release, automatically drops
Maintenance	173.2	Acre	x \$300.00	= \$51,960	
Resoling (Condition 1)	170642	CYD	x \$1.50	= \$255,963	At Phase II Release, automatically drops
Resoling (Condition 2)	242	CYD	x \$2.74	= \$663	At Phase II Release, automatically drops
Off-Site Resoling Material and Placement	20328	CYD	x \$3.50	= \$71,148	At Phase II Release, automatically drops
Sealing Auger Holes	0	LF	x \$5.00	= \$0	Phase I dependent, Drops out
Utility line relocation	7320	LF	x \$8.00	= \$58,560	
Oil or gas well plugging/resetting	0	Each	x \$25,000.00	= \$0	
Welland Mitigation	0.0	Acre	x \$20,000.00	= \$0	
Substantial Known Event #1	1	Lump Sum	x \$8,750.00	= \$8,750	
Substantial Known Event #2	1	Lump Sum	x \$0.00	= \$0	
Substantial Known Event #3	1	Lump Sum	x \$0.00	= \$0	
Means Contingencies	20	%		= \$1,384,568	
OEPA - NPDES (5% of base minus demolition)				= \$247,942	
ODNR - DMRM Admin costs (15% of base w/o demo - 10% of demolition)				= \$940,226	
Base amount				\$6,922,839	
Total amount				\$9,535,574	

Cost to Seal Air Shaft  
Sealed Air Shaft 15 ft dia. (16" thick) with steel reinforcing, construction cost about a \$1250.  
Fan (13' x 13' x 13') demolition cost of \$500  
5 Shaft sites  
Total Air Shaft Reclamation Costs \$8750

Previous PSE (3/1/2010)  
\$12,692,000  
Updated PSE (3/24/2010)  
\$9,536,000

Updated on (3/24/2010)

Removed the 134 acre(48")resoling depth, because it has allready been accounted for with the Coarse Refuse estimate sheet.  
Added IBRs 13, 14, 17, 18 and 19 acreage.  
Added haul road and emankment earthwork.



Addendum to I.B.R., Item 30  
American Energy Corporation

Chief  
ODNR, Division of Mineral Resources Management  
2045 Morse Road, Bldg. H-2  
Columbus, Ohio 43229-6693

Re: IBR-425-19, Small Area Drainage Exemption

Dear Chief:

American Energy Corporation is requesting a Small Area Drainage Exemption for the area within the proposed I.B.R. limits.

As indicated on the I.B.R. map in the Notes section, the S.A.D.E. will cover all four acres of the I.B.R. The S.A.D.E. is being requested to cover the graded fill necessary to create a storage area for excess spoils, a level area for topsoil storage, a construction sump, and a pad for shaft and substation installation sites. Prior to disturbance, silt fence will be placed at the toe of the fill along the boundary of the grading to control runoff. Once the area is to grade the silt fence will also be placed along the middle of the slope, and along the top crest of the fill to control runoff. Two diversion ditches flowing into sumps will also be constructed as an additional effort to control runoff from the pad and topsoil storage areas. All silt fences will be maintained until vegetative cover has been established on the embankment face. Grading operation will then be undertaken to create the fill and level area.

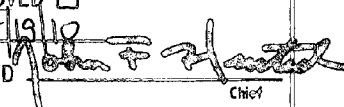
Immediately after construction, the S.A.D.E. area will be seeded and mulched. All runoff will meet effluent limitations

Silt fence will be replaced/reinstalled along the toe of the slopes prior to reclamation operations.

Sincerely,



Ryan Burns  
Environmental Engineer

APPROVED	<input checked="" type="checkbox"/>
DISAPPROVED	<input type="checkbox"/>
DATE:	5/19/10
SIGNED	 Chief

MAY 10 2010

OPERATOR

IBR-0425-19

AEC 07473



## Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

**John F. Husted, Chief**  
Division of Mineral Resources Management  
2045 Morse Road, Bldg. H-3  
Columbus, OH 43229-6693  
Phone: (614) 265-6633 Fax: (614) 265-7998

May 13, 2010

American Energy Corporation  
3521 Mayhugh Hill Road  
Beallsville, OH 43716

Re: Historic and Prehistoric Properties Clearance  
Permit D-0425-19 Incidental Boundary Revision (IBR) D-425-19 4-Acres

Dear Applicant:

Your proposed 4-acre IBR has been given a historic and prehistoric properties clearance by the Division of Mineral Resources Management. This clearance is based on the following reasons:

An on-site review of this IBR was performed by me. The area consists of west facing slope ranging from 5% - 30% absent of rock outcrops or foundations. Twelve soil probes were performed with an average "A" soil depth of 3 inches. Closer to the road the topsoil horizon was admixed with the "B" clay strata. The purpose of this IBR is to construct a ventilation air shaft for the underground permit. No historic properties exist within or adjacent o this IBR.

Therefore no further coordination on historic and prehistoric properties with the Division will be necessary for this application unless the project size increases or additional information is received by the Division on the presence of historic or prehistoric properties in it.

If you have any questions regarding this matter, please contact me at (614) 265-6633.

Sincerely,

A handwritten signature in cursive script, reading "Jeffrey C. Reichwein".

Jeffrey C. Reichwein, Ph.D.  
Archeologist

JCR/my

c: Ohio Historic Preservation Office  
Ginger Bennett, Application Manager - Cambridge  
John Puterbaugh, Inspector - Cambridge  
Permit File  
Archaeologist File

ohiodnr.com



DNR-0001

AEC 07474



## Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Mineral Resources Management  
Permitting Section  
John F. Husted, Chief  
2050 East Wheeling Avenue  
Cambridge, Ohio 43725

May 19, 2010

American Energy Corporation  
43521 Mayhugh Hill Rd.  
Beallsville, Ohio 43716

RE: Application Number: IBR-425-19

Issued  
5/27/10

To Whom It May Concern:

The Division of Mineral Resources Management has approved application number IBR-425-19. Pursuant to ORC 1513.08 (C), the Division has evaluated your proposed mining plan and has calculated an engineer's estimate of the cost of reclamation for the entire permit area to include IBR-425-19 at \$9,536,000. IBR-425-18 has also been included in this estimate but is pending approval. This estimate does not account for subsidence-related damage, water replacement, acid-mine drainage requiring long-term treatment, or subsequent permitting actions that may occur after the issuance of the permit. The estimate will be evaluated periodically by the Division to ascertain its accuracy.

Note that performance security can only be provided using one of the two methods (pool or full cost) on any permit. In addition, once full cost performance security has been posted on a permit and coal has been produced, the full cost security cannot be replaced using the performance security pool option.

Upon notification of the Performance Security (PS) method to be utilized, the Division will invoice the applicant for the required PS to allow for issuance of a permit for the application area. Please indicate your election on the enclosed form DNR-744-9078 and return the form to the application manager at the Division of Mineral Resources Management, 2050 East Wheeling Avenue, Cambridge, Ohio 43725.

If you have any questions, please call me at (740) 439-9079.

Sincerely,

Ginger A. Bennett, Application Manager  
Environmental Specialist

Enclosures: Engineer's estimate  
Form DNR-744-9078, Notification of Election of Performance Security

E-Signature Confirmation Number:

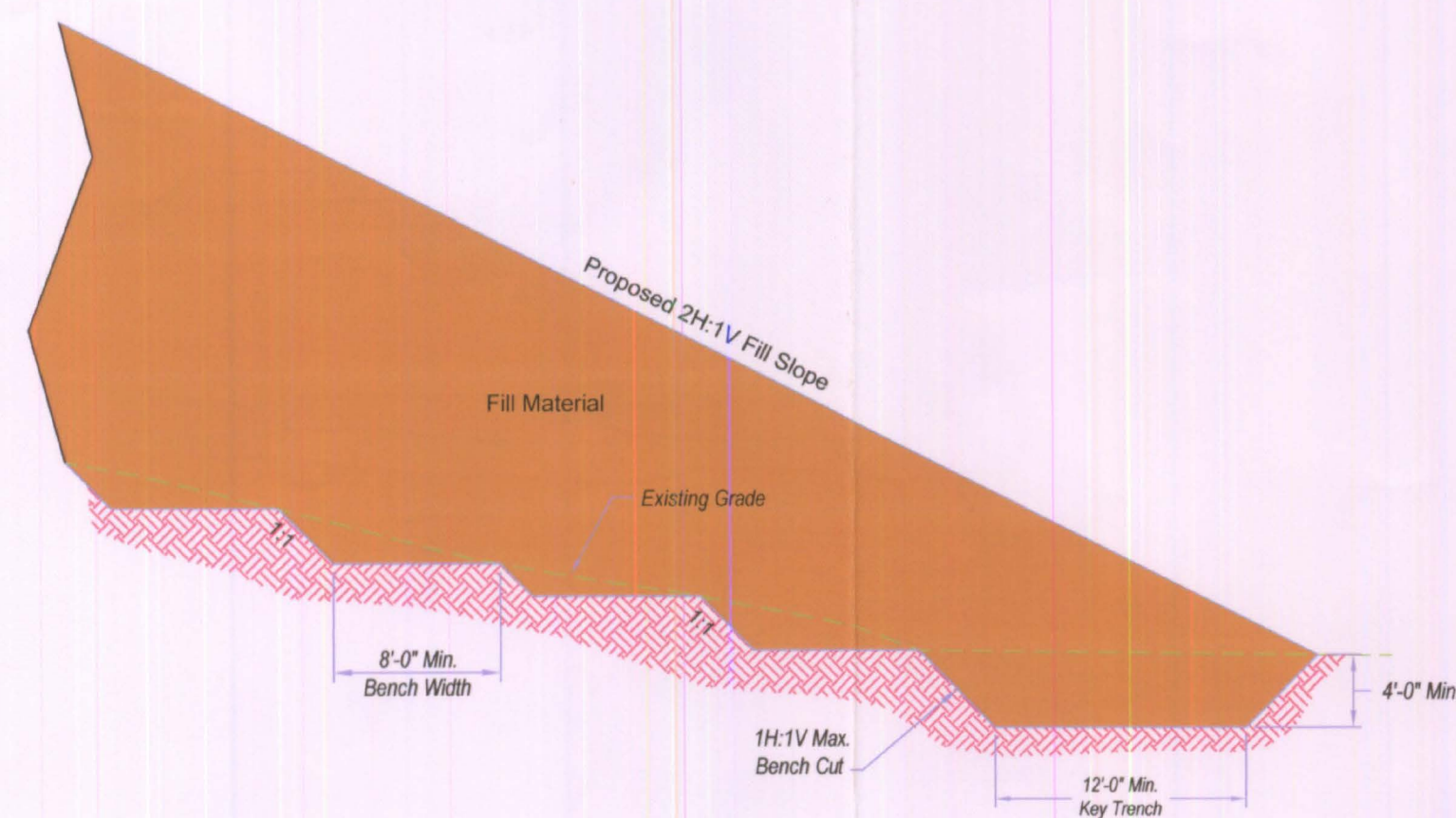
ohiodnr.com



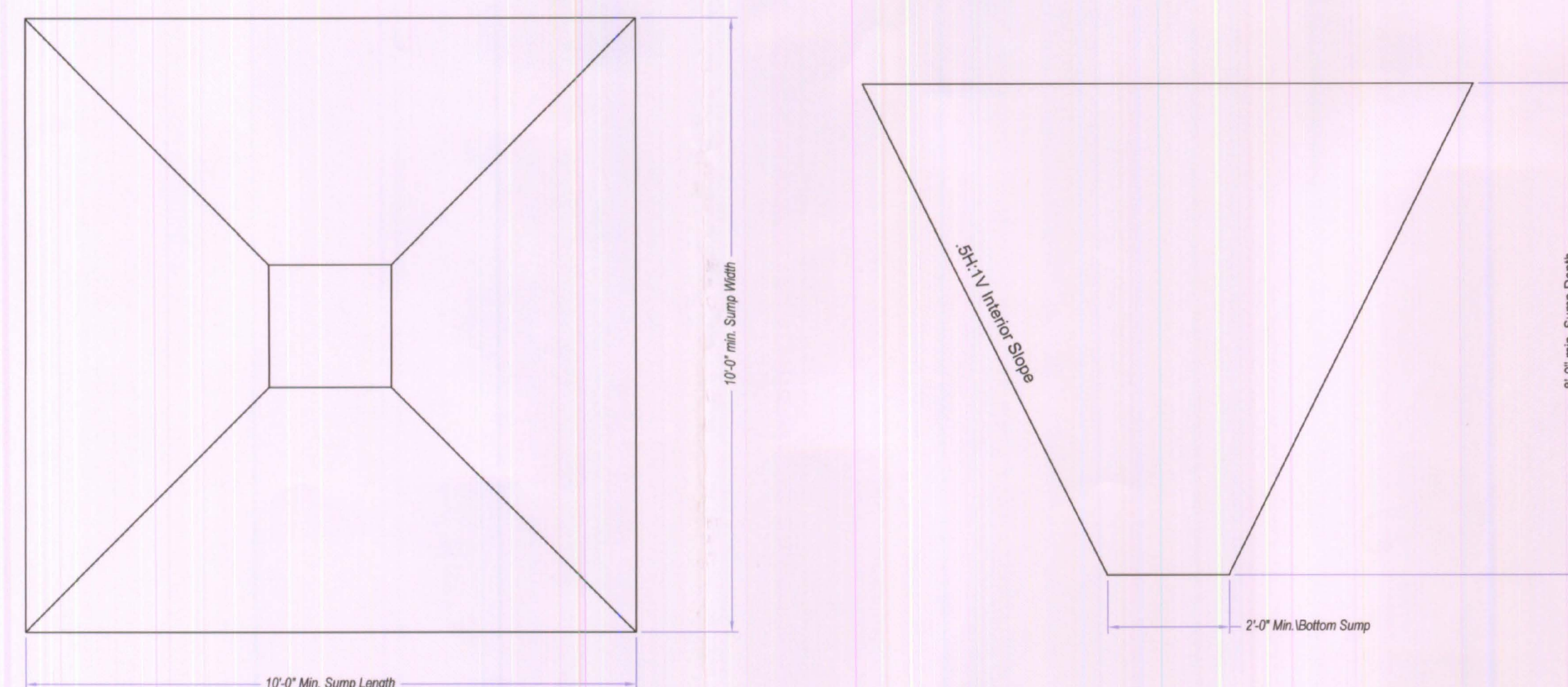
DNR-0001

AEC 07475

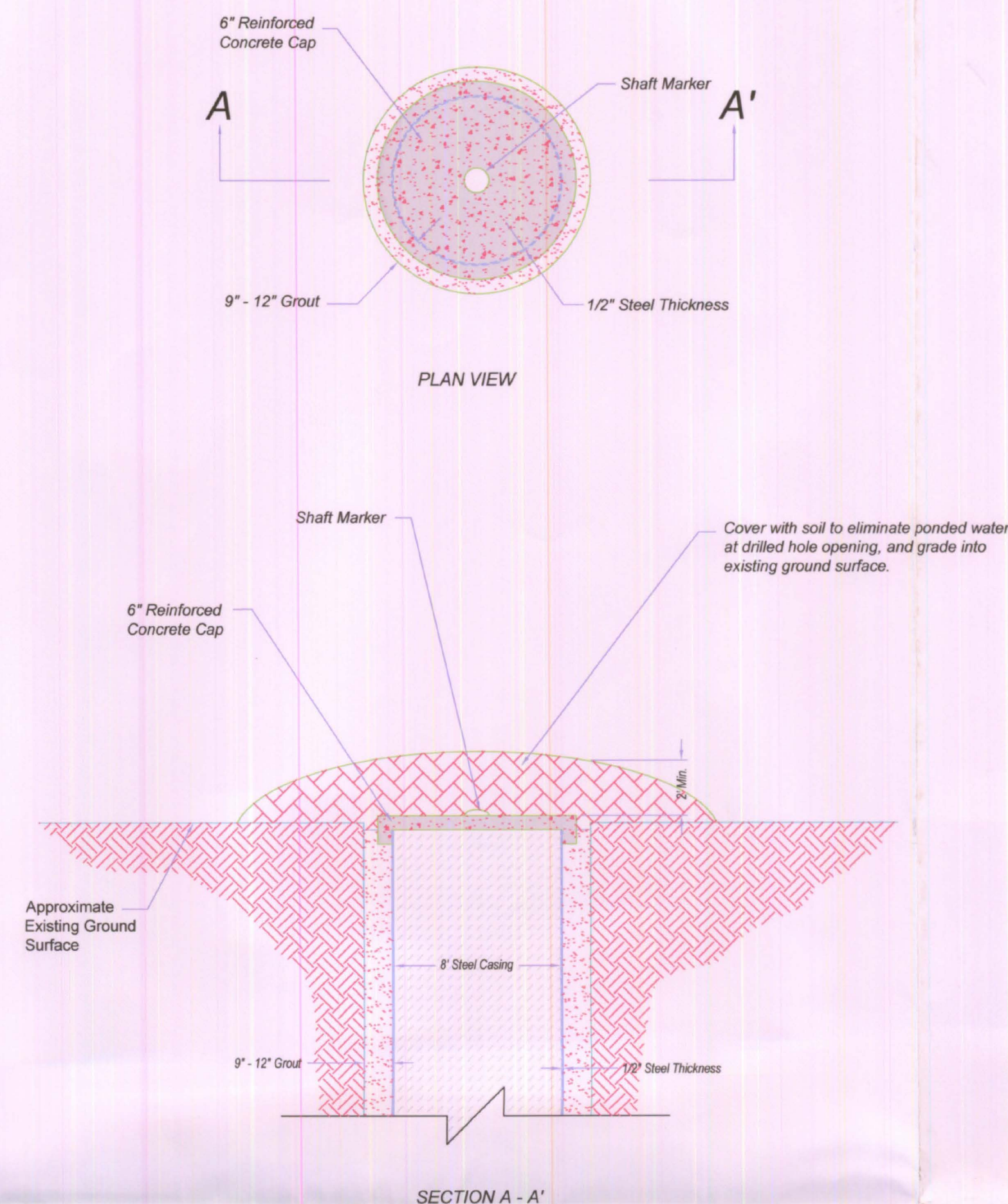




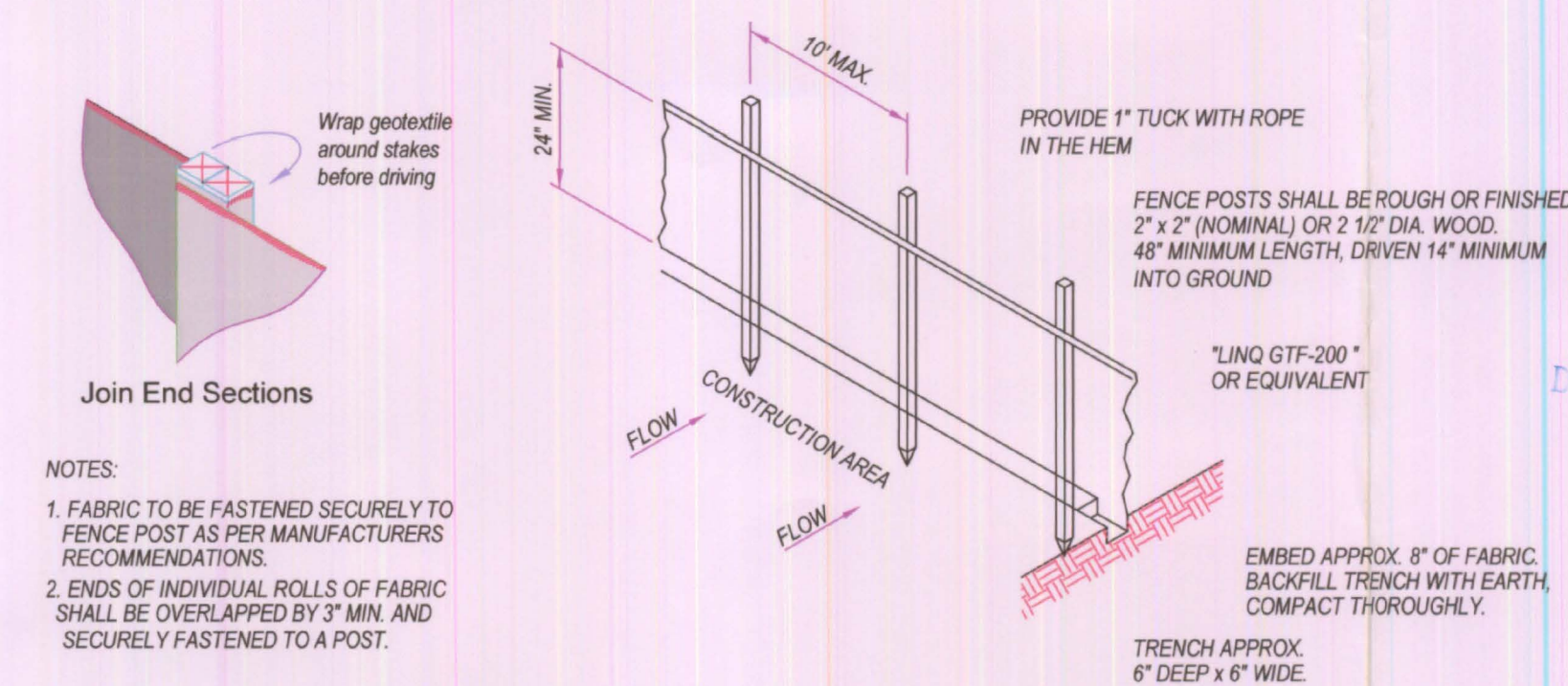
**Fill Key Trench & Subgrade Preparation Detail**  
Not To Scale



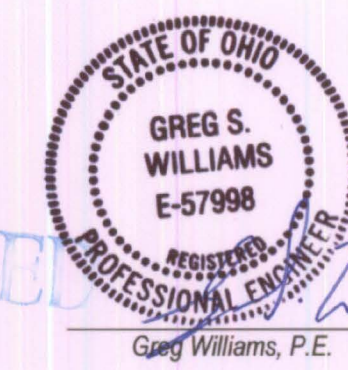
**Typical Sump Detail**  
Not To Scale



**Borehole Reclamation Detail**  
Not To Scale



**Standard Silt Fence Detail**  
Not To Scale



American Energy Corporation  
Lindsey Shaft Site Development  
SITUATED IN SECTION 26, T-5 R-4,  
WASHINGTON TOWNSHIP, BELMONT COUNTY,  
OHIO.  
**Site Details**

**HAMILTON**  
Associates, Inc.

**Century Mine**  
AMERICAN ENERGY CORPORATION

REVISIONS				
No.	DATE	DESCRIPTION	BY	CHKD
1	09/23/09	Replaced Straw Wattle Detail with Silt Fence Detail	DJB	MSK
2	04/15/10	Added Sump Detail	RWB	FRW

DRAWN BY: DJB  
CHECKED BY: MSK  
DATE: 01/26/10  
COMM NO.: 00001-60.8

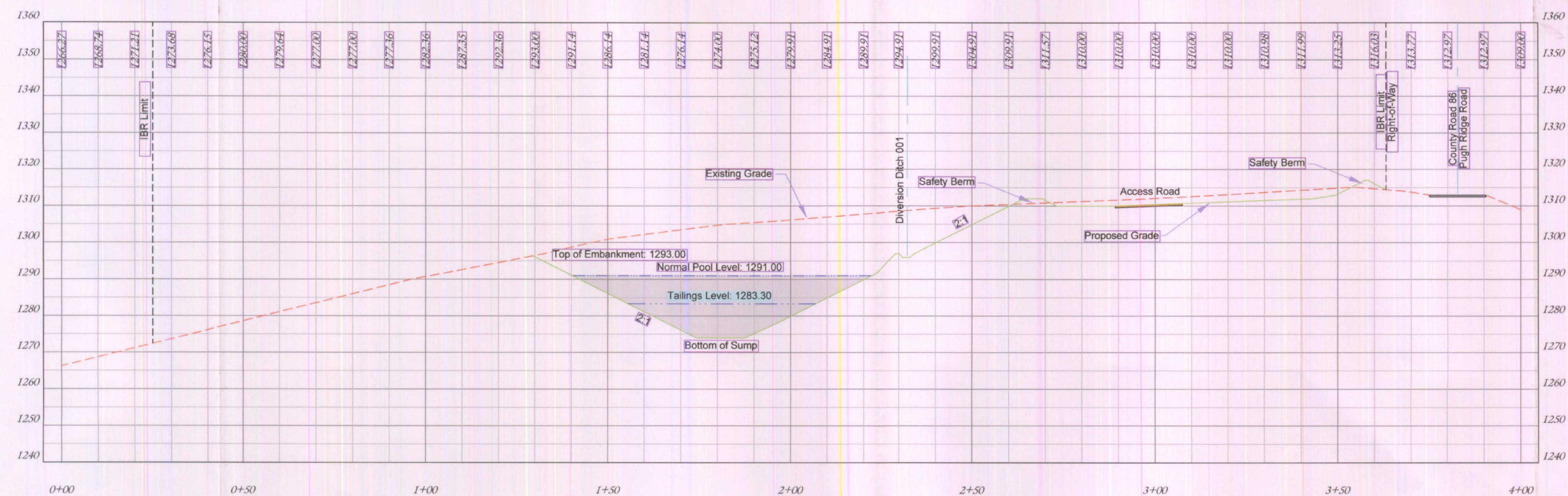
**SHEET**  
**C4**

2 WORKING DAYS  
BEFORE YOU DIG  
CALL TOLL FREE: 800-362-2764  
OHIO UTILITIES PROTECTION SERVICE

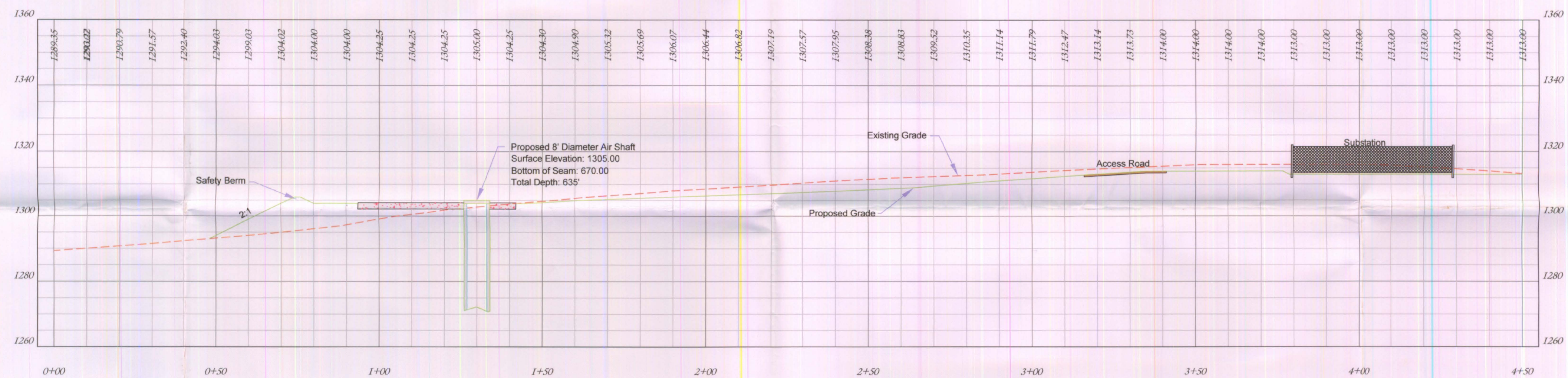
OPERATOR

1 BR-0425-19

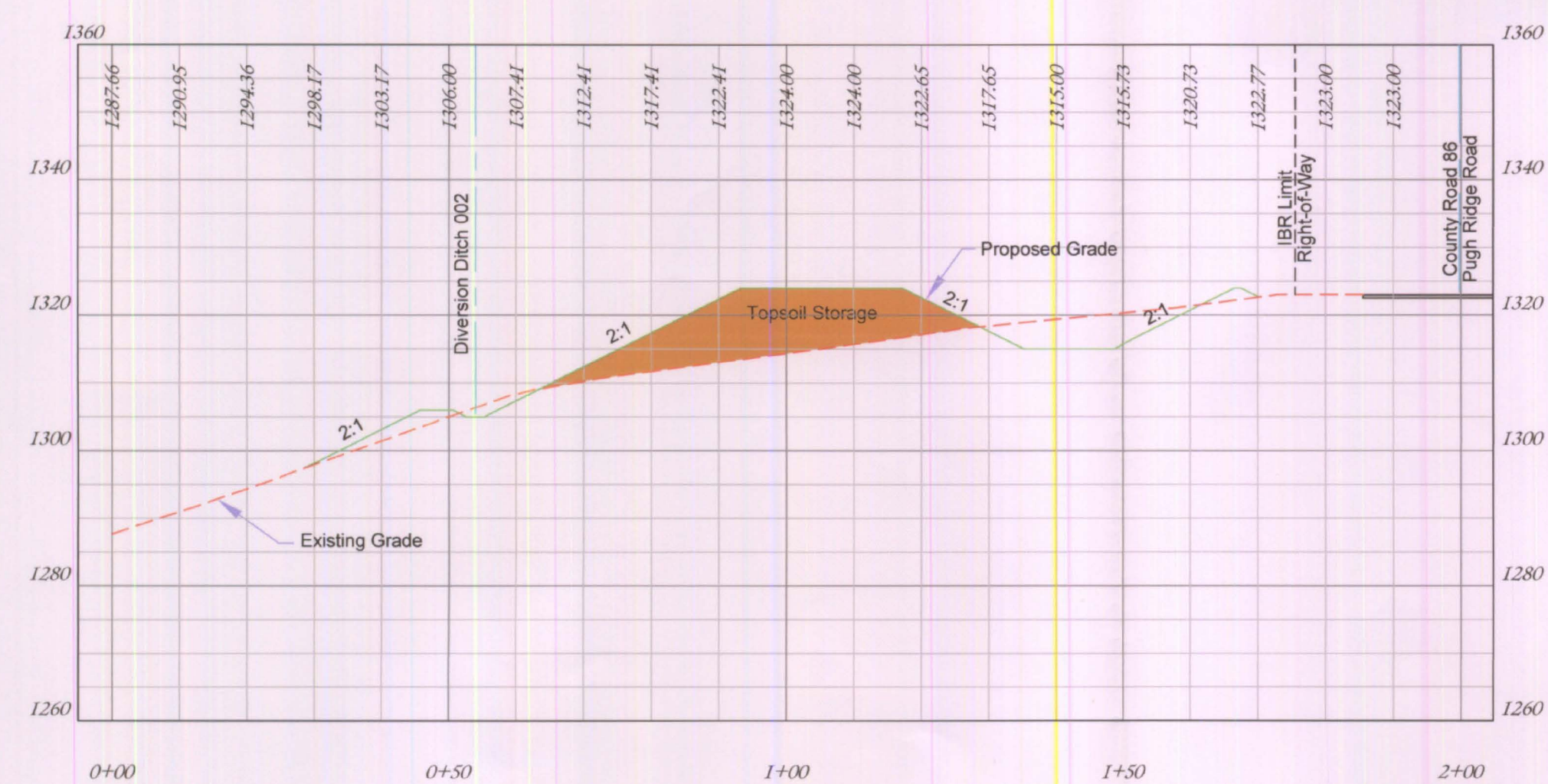




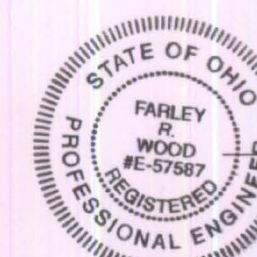
Site Cross Section A  
Scale: 1" = 20'



Site Cross Section B  
Scale: 1" = 20'



Site Cross Section C  
Scale: 1" = 20'



*Farley Wood* 5-10-10  
Farley Wood, P.E. Date

MAY 10 2010

American Energy Corporation  
Lindsey Shaft Site Development  
SITUATED IN SECTION 26, T-5 R-4,  
WASHINGTON TOWNSHIP, BELMONT COUNTY,  
OHIO. Site Cross Sections



REVISIONS					DRAWN BY	CHECKED BY	DATE	COMM. NO.
No.	DATE	DESCRIPTION	BY	CHKD	DJB	MSK		
1	09/23/09	Updated sections	DJB	MSK			07-08-09	00001-020
2	04/15/10	Updated sections	RWB	FRW				
3	05/07/10	Updated sections text	RWB	FRW				

SHEET

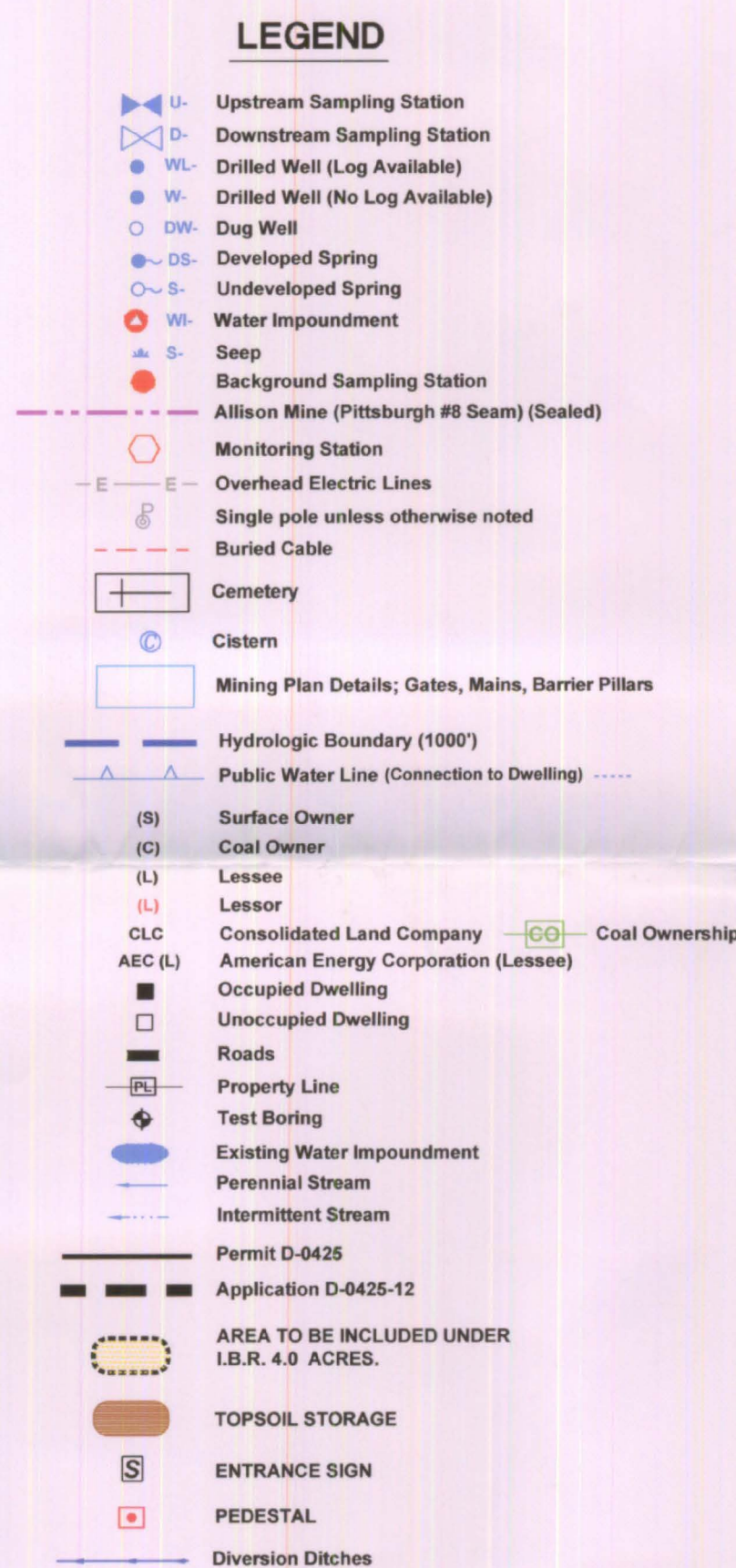
C2

2 WORKING DAYS  
BEFORE YOU DIG  
CALL TOLL FREE: 800-362-2764  
OHIO UTILITIES PROTECTION SERVICE

OPERATOR

1 BR-0425-19





The map shows a portion of Shawnee County, Iowa, with townships 13 through 28 and ranges 8 through 14. A yellow shaded area, labeled "Proposed I.B.R. Area", is located in the central part of the map, covering parts of townships 26 and 27, and ranges 10 and 11. The map includes labels for various towns such as Allerton, Orderville, and several creeks and roads. The map is oriented with North at the top.

**LOCATION MAP**

Scale 1" = 1 Mile

Mapping From Belmont County Highway Map

Drainage Basin: Captina Creek

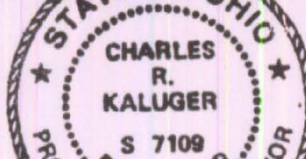
Located Within the Armstrong Mills


USGS 7.5 Minute Quadrangle

I, the undersigned, hereby certify that this map is correct, and shows to the best of my knowledge and belief all the information required by Chapter 1513 of the Revised Code and Rules adopted thereunder.

*Charles R. Kaluger*

REG. Surveyor #





GREG S. WILLIAMS best of my knowledge and belief all the information required by chapter 1113 of the Revised Code and Rules adopted thereunder.

*Greg S. Williams*

REG. ENGINEER # E-57998

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC THIS 14<sup>th</sup> DAY OF May, 2010

RECEIVED

MAY 14 2010

DIVISION OF MINERAL RESOURCES  
CAMBRIDGE

NOTARY PUBLIC  
DENISE D. JACKSON  
My Commission Expires Sept. 24, 2011

**American Energy Corporation**  
Application #IBR-425-19  
Located in: Section 26  
Washington Township, T-5-N R-4-W, Belmont County, Ohio  
**I.B.R. Application Map**

Scale: 1" = 200'	Contour Interval: 20'
Drawn By: JMC/DJB	Comm. #: 02001-62-6
Date: 07-06-2009	Revised Date: 09-28-09, 03-08-10 04-05-10, 04-16-10 05-07-10, 05-14-10
Century Mine Horizontal Datum	NAVD88 Vertical Datum



SCALE 1" = 200'

~~OPERATOR~~

IBR-0425-19

NOTE:

- (1) ALL WATER SAMPLING INFORMATION SHOWN HEREON WAS COMPILED BY QUALITY ENVIRONMENTAL SERVICES (QES) AND IS SHOWN ON THIS MAP AT THE LOCATION DETERMINED BY QES.
- (2) BUILDINGS AND STRUCTURES SHOWN HEREON ARE FROM THE BELMONT COUNTY GIS AERIAL PHOTOGRAPHY AND AERIAL MAPPING PROVIDED BY AMERICAN ENERGY CORP. PHOTOGRAPHY SUPPLEMENTED BY FIELD OBSERVATIONS BY QES DURING THEIR HYDROLOGY INVESTIGATIONS.
- (3) Sade Area is all 4 acres of the proposed I.B.R. area



Thomas, John E. & Johannes F. (S/M)  
CLC (C) AEC (L)

All fill shall be installed in maximum 1'-0" loose lifts and be compacted by means of a 20-ton sheepfoot compactor or equivalent. Prior to the placement of the fill, a key trench shall be installed along the toe of the fill slope, and the existing hillside shall be prepared as shown in the Fill Key Trench Detail. See Sheet C4.

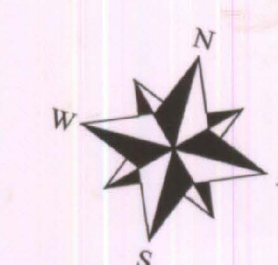
Knotts, Virginia M. (S/M)  
CLC (C) AEC (L)

Lindsey, Nelson G. (S/M)  
CLC (C) AEC (L)

### Construction Sump

#### Construction Sump Geometry & Volume

Dam Crest	Elev. 1293.00
Dam Crest Width	15 Ft.
Bottom of Sump	Elev. 1274.00
Bottom of Sump (After Tailings Settlement)	Elev. 1283.30
Up & Downstream Slopes	2H:1V
60% Sediment Clean Out Level	Elev. 1288.00 (Following tailings settlement)
Total Tailings Volume Provided	Elev. 1291.41 - 4.29 cfs
Total Sediment Storage Required	0.733 Ac-Ft (3 Factor)
Total Sediment Storage Provided	0.254 Ac-Ft
Total Sump Volume Provided	1.952 Ac-Ft (Elev. 1283.30 to Elev. 1291.00)
	2.69 Ac-Ft (Elev. 1274.00 to Elev. 1291.00)



### Legend

- Property Lines
- Existing Grade Contour (Index)
- Existing Grade Contour (Intermediate)
- Existing Grade Spot Elevation
- Proposed Grade Contour (Index)
- I.B.R. Limits (4.00 Acs.)
- Silt Fence
- Fence
- Rock Rip Rap
- Concrete
- Diversion Ditches

### Estimated Earthwork Quantities:

3,000 CY of Topsoil to be removed and stored in designated area.

1/4 2204.4.8 Total Unclassified Excavation (Excluding Topsoil) : .....

12,736.02 CY

1/4 2305.4.8 Total Area to be Seeded & Mulched : .....

3.6

Acres

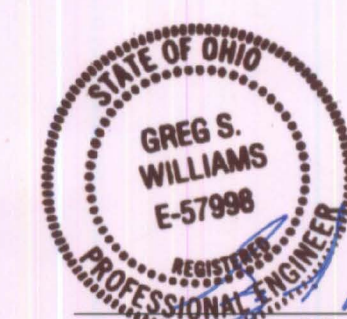
1/4 2305.4.8 Total Area to be Seeded & Mulched : .....

Please note that all quantities shown above are estimates and are provided for informational purposes only. The earthwork volumes shown above do not include allowances for shrinkage, swell or loss due to compaction.

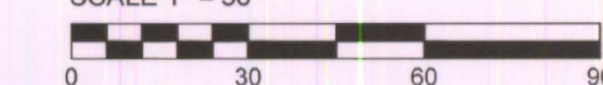
### Note:

Mapping taken from survey performed by Jack A. Hamilton and Associates on 09-10-2008.

SADE is all 4 acres of proposed I.B.R. site.



Scale 1" = 30'



## American Energy Corporation

### Lindsey Shaft Site Development

SITUATED IN SECTION 26, T-5 R-4,  
WASHINGTON  
TOWNSHIP, BELMONT COUNTY, OHIO.

### Site Grading Plan



### REVISIONS

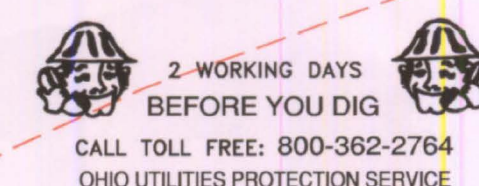
No.	DATE	DESCRIPTION	BY	CHKD
1	09/23/09	Extended past design, revised	DJB	MSK
2	03/05/10	Added S.A.D.E. areas	DJB	MSK
3	04/15/10	Change drainage controls	RWB	FRW
4	05/07/10	Change drainage controls and SADE	RWB	FRW
5	05/14/10	Change sump locations	RWB	GSW

DRAWN BY  
CHECKED BY  
DATE  
CDDM NO.

DJB  
MSK  
07-06-09  
00001-024

SHEET

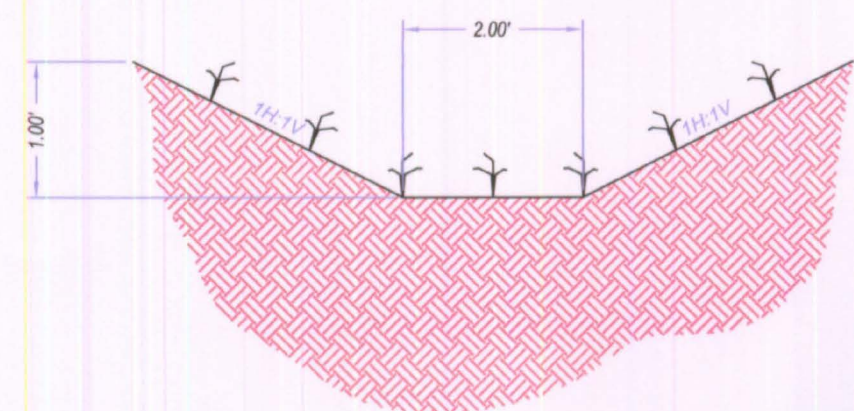
C1



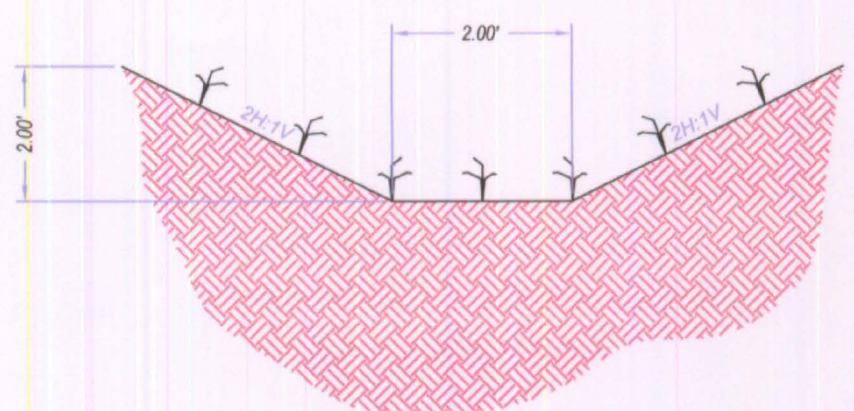
OPERATOR

1 BR-0425-19

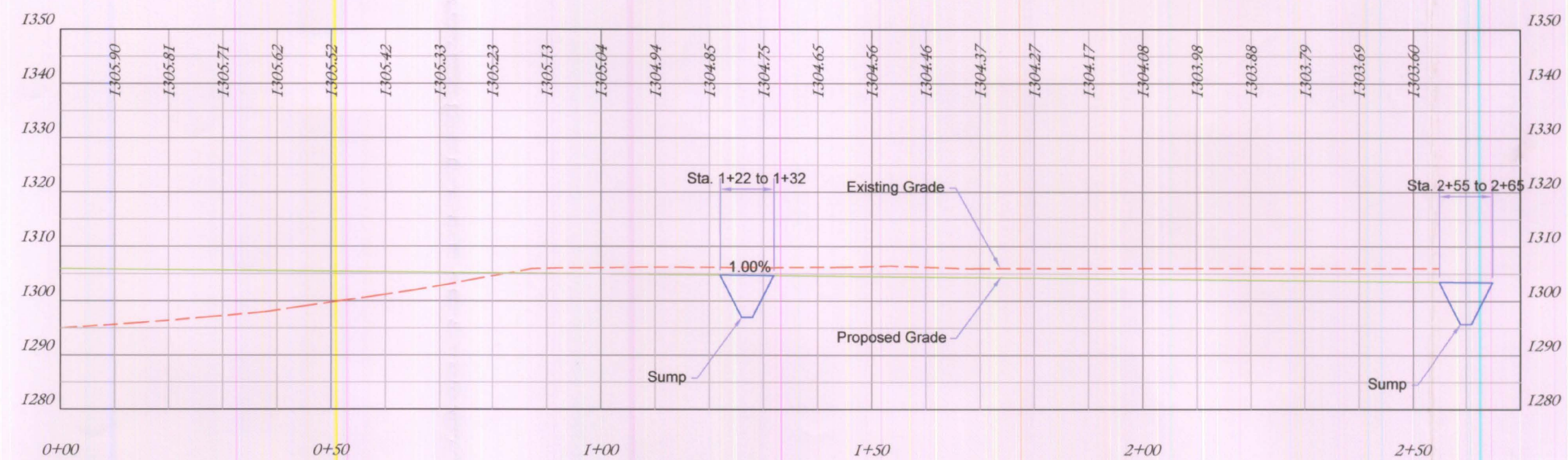




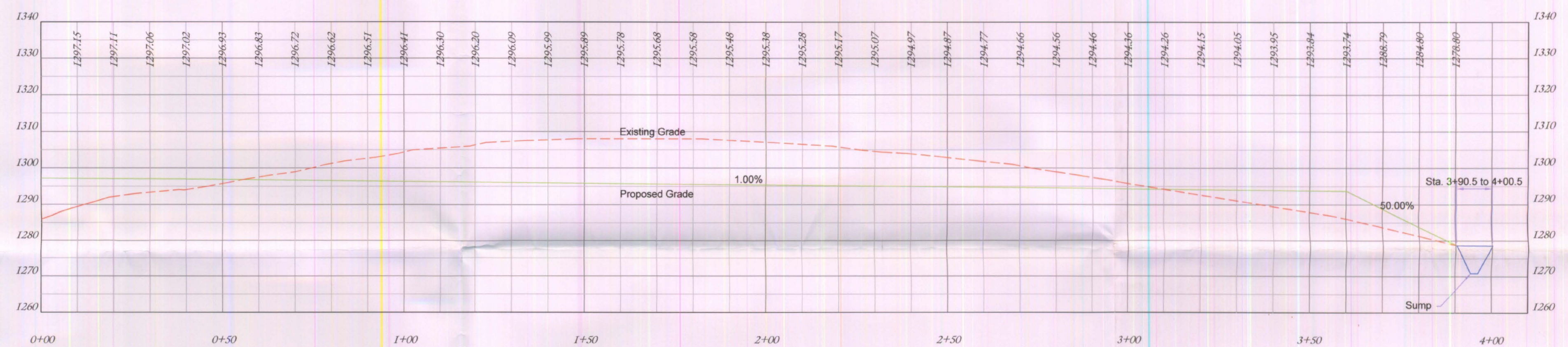
**Typical Grass Lined  
Diversion Ditch 001 Cross Section**  
Not To Scale



**Typical Grass Lined  
Diversion Ditch 002 Cross Section**  
Not To Scale



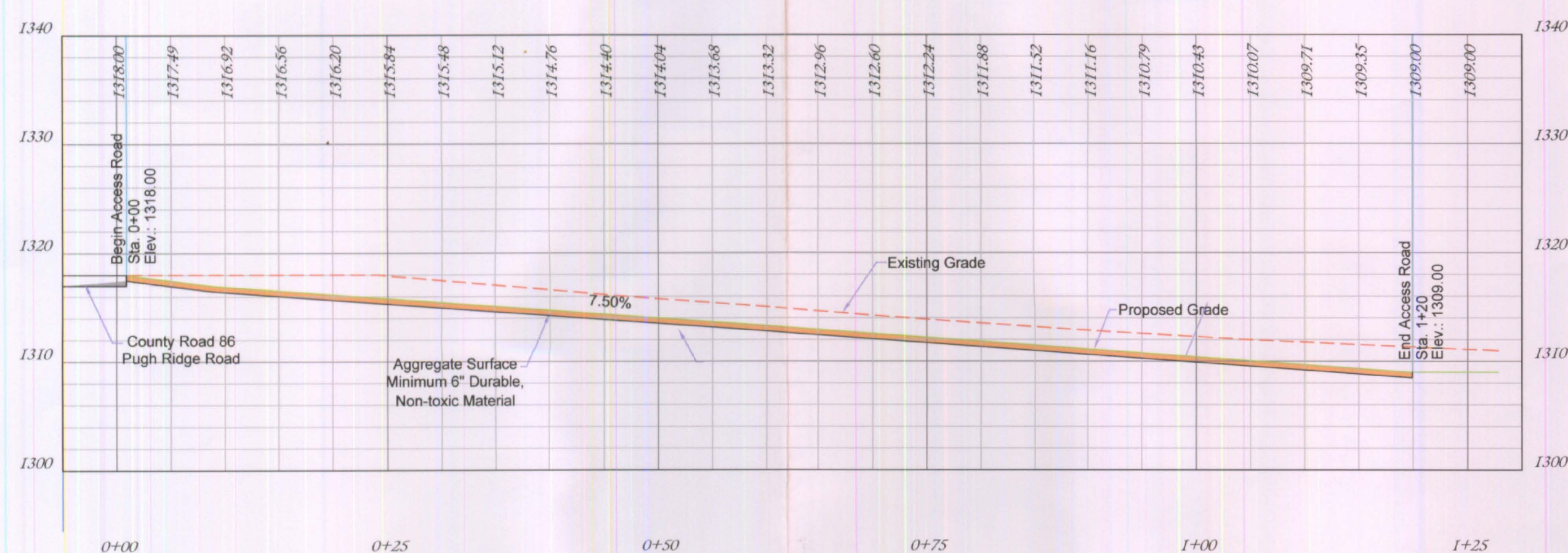
**Diversion Ditch 002 Profile**  
Scale: 1" = 20'



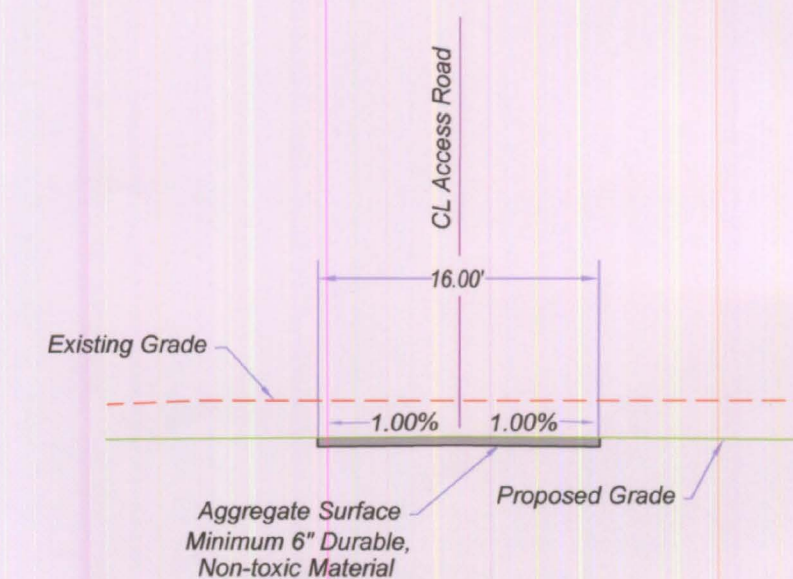
**Diversion Ditch 001 Profile**  
Scale: 1" = 20'

Channel	Drainage Area (Acres)	Design Storm	Design Flow (cfs)	Channel Slope	Side Slopes (L) (R)	Max. Flow Depth (feet)	Design Depth (feet)	Top Width* (feet)	Maximum Velocity (fps)	Channel Lining
Diversion Ditch 001 (Sta. 0+00.00 - Sta. 3+60.11)	0.27	10 Yr., 24 Hr.	0.62	1.00%	1:1 1:1	0.90	1.00	4.00	0.69	Vegetative
Diversion Ditch 001 (Sta. 3+60.11+30.5)	0.01	10 Yr., 24 Hr.	1.23	50.00%	1:1 1:1	0.30	1.00	4.01	1.74	Vegetative
Diversion Ditch 002 (Sta. 0+16 - Sta. 2+18)	0.49	10 Yr., 24 Hr.	1.12	1.00%	2:1 2:1	0.99	1.02	6.08	0.28	Vegetative

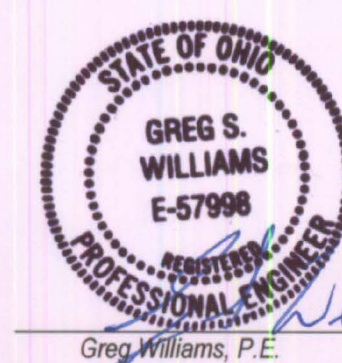
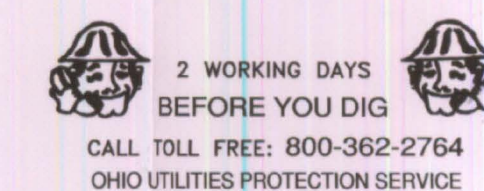
\* Top width based on Design Depth.



**Access Road Profile**  
Scale: 1" = 10'



**Typical Access Road Section**  
Scale: 1" = 10'



5/14/10  
Date

**American Energy Corporation**

**Lindsey Shaft Site Development**

SITUATED IN SECTION 26, T-5 R-4,  
WASHINGTON TOWNSHIP, BELMONT COUNTY,  
OHIO.

**Site Profiles**

REVISIONS					DRAWN BY		CHECKED BY	
No.	DATE	DESCRIPTION	BY	CHKD	DATE	DATE	DATE	
1	08/23/08	Updated Access Road profile & Section & Added Rock Rip Rap to DD 002	DJB	MSK				
2	03/08/10	Updated Typical Rock Lined Channel Cross Section	DJB	MSK				
3	04/15/10	Changed drainage controls	RWB	FRW				
4	04/15/10	Changed cross section and table	RWB	GSW				

**SHEET**

**C3**

OPERATOR

1 BR-0425-19